```
=> e cetyltrimethylammonium bromide/cn
E1          1       CETYLTRIMETHYLAMMONIUM BENZOATE/CN
E2          1       CETYLTRIMETHYLAMMONIUM BENZOSULFIMIDE/CN
E3          1 -->   CETYLTRIMETHYLAMMONIUM BROMIDE/CN
E4          1       CETYLTRIMETHYLAMMONIUM BROMIDE-.BETA.-CYCLODEXTRIN COMPOUND
                    (1:1)/CN
E5          1       CETYLTRIMETHYLAMMONIUM BROMIDE-CONGO RED COMPLEX (2:1)/CN
E6          1       CETYLTRIMETHYLAMMONIUM BROMIDE-EDTA MIXT./CN
E7          1       CETYLTRIMETHYLAMMONIUM BROMIDE-POLY(METHACRYLIC ACID) COMPD.
                    /CN
E8          1       CETYLTRIMETHYLAMMONIUM BUTYLPHOSPHONATE/CN
E9          1       CETYLTRIMETHYLAMMONIUM CATION/CN
E10         1       CETYLTRIMETHYLAMMONIUM CHLORATE/CN
E11         1       CETYLTRIMETHYLAMMONIUM CHLORIDE/CN
E12         1       CETYLTRIMETHYLAMMONIUM CHLORIDE COMPD. WITH P-PHENYLPHENOL (
                    1:1)/CN

=> d
ENTER NAME OF ITEM TO BE DISPLAYED OR (?):d e3
'D' IS NOT VALID HERE
```

For an explanation, enter "HELP DISPLAY".

```
=> help display
```
 The DISPLAY command is used to view various types of saved and
 current-session information. To use this command, enter DISPLAY and
 the name of the item to be displayed. The system will display the
 item online. Highlighting characters may be suppressed by adding the
 NOHIGHLIGHT (NOH) option on the command line.

 For information on the predefined formats available for the display
 of records in this file, enter HELP FORMAT at an arrow prompt (=>).
 For information on the display of records using individual fields or
 groups of fields, enter HELP DFIELDS. For information on how to
 create a user-defined display format, enter HELP SET FORMAT. For
 information on how to change the default display format for this
 file, enter HELP SET DFORMAT. To see the current default display
 format for this file, enter DISPLAY SET DFORMAT.

 For more information about the DISPLAY command, enter one of the
 following HELP commands at an arrow prompt.

```
=> HELP DISPLAY ACC ------- To see the record for a specific
                            Accession Number in a file

=> HELP DISPLAY ARCHIVE --- To grant permission to store STN records
                            for the purposes of electronic access
                            by a specified number of users within
                            your worldwide organization

=> HELP DISPLAY BROWSE ---- To browse through an answer set without
                            rekeying the DISPLAY command before each
                            answer number

=> HELP DISPLAY CLUSTER --- To see user-defined and system-defined
                            file clusters

=> HELP DISPLAY COST ------ To see the approximate cost of a session

=> HELP DISPLAY CURRENCY -- To see the patent currency status of
                            certain files

=> HELP DISPLAY EXPAND ---- To see the E-number list from an EXPAND
                            or SELECT command

=> HELP DISPLAY FIELD ----- To see the user-defined search fields

=> HELP DISPLAY FORMAT ---- To see the user-defined display formats

=> HELP DISPLAY FROM ------ To see records from specific files when
                            the L-number contains records from
                            multiple files

=> HELP DISPLAY HISTORY --- To see the commands used in this session

=> HELP DISPLAY L# -------- To see answers from a search

=> HELP DISPLAY PFAM ------ To see selective records from specified
                            patent families in an FSORT L-number

=> HELP DISPLAY PRINT ----- To see the status of offline prints
                            requested in this session

=> HELP DISPLAY QUERY ----- To see the definition of a query

=> HELP DISPLAY REDISTRIBUTE -- To grant permission to redistribute
                            within your worldwide organization a
                            specified number of printed or electronic
                            copies of STN records

=> HELP DISPLAY SAVED ----- To list saved items for this loginid

=> HELP DISPLAY SCAN ------ To scan through an answer set in random
                            order with a predefined display format

=> HELP DISPLAY SELECT ---- To see the E-number list from a SELECT or
                            EXPAND command

=> HELP DISPLAY SET ------- To see the SET parameters currently
                            active, changed, or set permanently

=> HELP DISPLAY TERM ----- To see the terms extracted using
                            SmartSELECT
```

```
=> HELP DISPLAY TOLERANCE - To see the tolerance in effect for
                            numeric fields available in the current
                            file

 => HELP DISPLAY TSORT ----- To sort the entries in a display that
                             uses a table format

 => HELP DISPLAY UNIT ------ To see the units in effect for numeric
                             fields available in the current file

=> s e3
L1            1 "CETYLTRIMETHYLAMMONIUM BROMIDE"/CN

=> d his

     (FILE 'HOME' ENTERED AT 09:10:18 ON 23 AUG 2002)

     FILE 'REGISTRY' ENTERED AT 09:10:40 ON 23 AUG 2002
              E CETYLTRIMETHYLAMMONIUM BROMIDE/CN
L1           1 S E3

=> d kwic

L1   ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2002 ACS
OTHER NAMES:
CN   Cetyltrimethylammonium bromide


=> d hitstr
'HITSTR' IS NOT A VALID FORMAT FOR FILE 'REGISTRY'

The following are valid formats:

Substance information can be displayed by requesting individual
fields or predefined formats.  The predefined substance formats
are:  (RN = CAS Registry Number)

REG    - RN
SAM    - Index Name, MF, and structure - no RN
FIDE   - All substance data, except sequence data
IDE    - FIDE, but only 50 names
SQIDE  - IDE, plus sequence data
SQIDE3 - Same as SQIDE, but 3-letter amino acid codes are used
SQD    - Protein sequence data, includes RN
SQD3   - Same as SQD, but 3-letter amino acid codes are used
SQN    - Protein sequence name information, includes RN

CALC   - Table of numeric properties
PROP   - Same as CALC

ABS  -- Abstract
APPS -- Application and Priority Information
BIB  -- CA Accession Number, plus Bibliographic Data
CAN  -- CA Accession Number
CBIB -- CA Accession Number, plus Bibliographic Data (compressed)
IND  -- Index Data
IPC  -- International Patent Classification
PATS -- PI, SO
STD  -- BIB, IPC, and NCL

IABS --ABS, indented, with text labels
```

IBIB -- BIB, indented, with text labels
ISTD -- STD format, indented

OBIB -------- AN, plus Bibliographic Data (original)
OIBIB ------- OBIB, indented with text labels

SBIB -------- BIB, no citations
SIBIB ------- IBIB, no citations

The ALL format gives FIDE BIB ABS IND RE, plus sequence data when
it is available.
The MAX format is the same as ALL.
The IALL format is the same as ALL with BIB ABS and IND indented,
with text labels.

For additional information, please consult the following help
messages:

HELP DFIELDS -- To see a complete list of individual display fields.
HELP FORMATS -- To see detailed descriptions of the predefined formats.
Any CA File format may be combined with any substance format to
obtain CA references citing the substance. The substance formats
must be cited first. The CA File predefined formats are:

ENTER DISPLAY FORMAT (IDE):end

=> dh is
           267 DH
        169114 IS
L2   0 DH IS
              (DH(W)IS)

=> d his

      (FILE 'HOME' ENTERED AT 09:10:18 ON 23 AUG 2002)

      FILE 'REGISTRY' ENTERED AT 09:10:40 ON 23 AUG 2002
              E CETYLTRIMETHYLAMMONIUM BROMIDE/CN
L1   1 S E3
L2   0 DH IS

=> file ca
COST IN U.S. DOLLARS   SINCE FILE   TOTAL
                                              ENTRY   SESSION
FULL ESTIMATED COST   17.38   17.59

FILE 'CA' ENTERED AT 09:16:30 ON 23 AUG 2002
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2002 AMERICAN CHEMICAL SOCIETY (ACS)

FILE COVERS 1907 - 15 Aug 2002 VOL 137 ISS 8
FILE LAST UPDATED: 15 Aug 2002 (20020815/ED)

   This file contains CAS Registry Numbers for easy and accurate
   substance identification.

CAS roles have been modified effective December 16, 2001. Please
check your SDI profiles to see if they need to be revised. For
information on CAS roles, enter HELP ROLES at an arrow prompt or use
the CAS Roles thesaurus (/RL field) in this file.

=> d his

       (FILE 'HOME' ENTERED AT 09:10:18 ON 23 AUG 2002)

       FILE 'REGISTRY' ENTERED AT 09:10:40 ON 23 AUG 2002
                 E CETYLTRIMETHYLAMMONIUM BROMIDE/CN
L1   1 S E3
L2   0 DH IS

       FILE 'CA' ENTERED AT 09:16:30 ON 23 AUG 2002

=> s l1
L3   11385 L1

=> d kwic

L3   ANSWER 1 OF 11385 CA COPYRIGHT 2002 ACS
IT   **57-09-0,** Hexadecyl trimethyl ammonium bromide
      RL: MOA (Modifier or additive use); USES (Uses)
          (surfactant; resistive semiconductive gas sensor contg. metal porphyrin
          complexes for the detn. of ammonia)

=> d hitstr

L3   ANSWER 1 OF 11385 CA COPYRIGHT 2002 ACS
IT   **57-09-0,** Hexadecyl trimethyl ammonium bromide
      RL: MOA (Modifier or additive use); USES (Uses)
          (surfactant; resistive semiconductive gas sensor contg. metal porphyrin
          complexes for the detn. of ammonia)
RN   57-09-0 CA
CN   1-Hexadecanaminium, N,N,N-trimethyl-, bromide (9CI)   (CA INDEX NAME)

$Me_3{}^+N-(CH_2)_{15}-Me$

       ● Br⁻

=> file registry
COST IN U.S. DOLLARS   SINCE FILE   TOTAL
                                                 ENTRY   SESSION
FULL ESTIMATED COST   3.79   21.38

FILE 'REGISTRY' ENTERED AT 09:19:05 ON 23 AUG 2002
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

STRUCTURE FILE UPDATES: 21 AUG 2002   HIGHEST RN 444646-89-3
DICTIONARY FILE UPDATES: 21 AUG 2002   HIGHEST RN 444646-89-3

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

   Please note that search-term pricing does apply when
   conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Calculated physical property data is now available. See HELP PROPERTIES
for more information. See STNote 27, Searching Properties in the CAS
Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

```
=> e cetyltrimethylammonium bromide/cn
E1          1       CETYLTRIMETHYLAMMONIUM BENZOATE/CN
E2          1       CETYLTRIMETHYLAMMONIUM BENZOSULFIMIDE/CN
E3          1 -->   CETYLTRIMETHYLAMMONIUM BROMIDE/CN
E4          1       CETYLTRIMETHYLAMMONIUM BROMIDE-.BETA.-CYCLODEXTRIN COMPOUND
                    (1:1)/CN
E5          1       CETYLTRIMETHYLAMMONIUM BROMIDE-CONGO RED COMPLEX (2:1)/CN
E6          1       CETYLTRIMETHYLAMMONIUM BROMIDE-EDTA MIXT./CN
E7          1       CETYLTRIMETHYLAMMONIUM BROMIDE-POLY(METHACRYLIC ACID) COMPD.
                    /CN
E8          1       CETYLTRIMETHYLAMMONIUM BUTYLPHOSPHONATE/CN
E9          1       CETYLTRIMETHYLAMMONIUM CATION/CN
E10         1       CETYLTRIMETHYLAMMONIUM CHLORATE/CN
E11         1       CETYLTRIMETHYLAMMONIUM CHLORIDE/CN
E12         1       CETYLTRIMETHYLAMMONIUM CHLORIDE COMPD. WITH P-PHENYLPHENOL (
                    1:1)/CN

=> s e3
L4          1 "CETYLTRIMETHYLAMMONIUM BROMIDE"/CN

=> d l4

L4    ANSWER 1 OF 1   REGISTRY   COPYRIGHT 2002 ACS
RN    57-09-0  REGISTRY
CN    1-Hexadecanaminium, N,N,N-trimethyl-, bromide (9CI)   (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN    Ammonium, hexadecyltrimethyl-, bromide (8CI)
CN    Hexadecyltrimethylammonium bromide (6CI)
OTHER NAMES:
CN    1-Hexadecyltrimethylammonium bromide
CN    Accelerator DT 3126-1
CN    Acetoquat CTAB
CN    Arquad 16/60
CN    BCTA
CN    Bromat
CN    Cetrimonium bromide
CN    Cetyltrimethylammonium bromide
CN    Cirrasol OD
CN    CTAB
CN    CTABr
CN    CTMAB
CN    CTMB
CN    HDTMA-Br
CN    Hexadecyltrimethylamine bromide
CN    Hexdecyltrimethylammonium bromide
```

```
CN    HTAB
CN    Lauroseptol
CN    Lissolamine
CN    Lissolamine A
CN    Micol
CN    N,N,N-Trimethyl-1-hexadecanaminium bromide
CN    N,N,N-Trimethylhexadecan-1-ammonium bromide
CN    N,N,N-Trimethylhexadecylammonium bromide
CN    N-Cetyl-N,N,N-trimethylammonium bromide
CN    N-Cetyltrimethylammonium bromide
CN    N-Hexadecyl-N,N,N-trimethylammonium bromide
CN    n-Hexadecyltrimethylammonium bromide
CN    Palmityltrimethylammonium bromide
CN    Pollacid
CN    Quamonium
CN    Rhodaquat M 242B99
CN    Softex KW
CN    Trimethylcetylammonium bromide
CN    Trimethylhexadecylammonium bromide
CN    Varisoft CTB 40
DR    12294-25-6, 104302-76-3, 108779-80-2, 69217-35-2, 79631-76-8
MF    C19 H42 N . Br
CI    COM
LC    STN Files:  ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS,
         BIOSIS, BIOTECHNO, CA, CABA, CAOLD, CAPLUS, CASREACT, CEN, CHEMCATS,
         CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, DDFU, DETHERM*, DIOGENES, DRUGU,
         EMBASE, GMELIN*, IFICDB, IFIPAT, IFIUDB, IPA, MRCK*, MSDS-OHS, NIOSHTIC,
         PIRA, PROMT, RTECS*, SPECINFO, TOXCENTER, ULIDAT, USAN, USPAT2,
         USPATFULL, VTB
            (*File contains numerically searchable property data)
      Other Sources:  DSL**, EINECS**, TSCA**, WHO
            (**Enter CHEMLIST File for up-to-date regulatory information)
CRN   (6899-10-1)
```

Me₃⁺N— (CH₂)₁₅—Me

● Br⁻

```
      11368 REFERENCES IN FILE CA (1967 TO DATE)
        164 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
      11402 REFERENCES IN FILE CAPLUS (1967 TO DATE)
        251 REFERENCES IN FILE CAOLD (PRIOR TO 1967)


=> e CETYLTRIMETHYLAMMONIUM chloride/cn
E1          1       CETYLTRIMETHYLAMMONIUM CATION/CN
E2          1       CETYLTRIMETHYLAMMONIUM CHLORATE/CN
E3          1 --> CETYLTRIMETHYLAMMONIUM CHLORIDE/CN
E4          1       CETYLTRIMETHYLAMMONIUM CHLORIDE COMPD. WITH P-PHENYLPHENOL (
                    1:1)/CN
E5          1       CETYLTRIMETHYLAMMONIUM CHLORIDE HEMIHYDRATE/CN
E6          1       CETYLTRIMETHYLAMMONIUM CHLOROCHROMATE/CN
E7          1       CETYLTRIMETHYLAMMONIUM CYANIDE/CN
E8          1       CETYLTRIMETHYLAMMONIUM CYCLOHEXANECARBOXYLATE/CN
E9          1       CETYLTRIMETHYLAMMONIUM DECAVANADATE/CN
E10         1       CETYLTRIMETHYLAMMONIUM DIBUTYL PHOSPHATE/CN
E11         1       CETYLTRIMETHYLAMMONIUM DIIODOBROMIDE/CN
```

```
=> s e3
L5                1 "CETYLTRIMETHYLAMMONIUM CHLORIDE"/CN

=> d l5


L5    ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2002 ACS
RN    112-02-7  REGISTRY
```

CN   1-Hexadecanaminium, N,N,N-trimethyl-, chloride (9CI)   (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN   Ammonium, hexadecyltrimethyl-, chloride (8CI)
CN   Hexadecyltrimethylammonium chloride (6CI)
OTHER NAMES:
CN   Adogen 444
CN   Aliquat 6
CN   Ammonyx Cetac 30
CN   Arquad 16
CN   Arquad 16-25LO
CN   Arquad 16-25W
CN   Arquad 16-26
CN   Arquad 16-29
CN   Arquad 16-29W
CN   Arquad 16-50
CN   Barquat CT 29
CN   BP 40
CN   Carsoquat CT 429
CN   Catinal CTC 70ET
CN   Cation PB 40
CN   CETAC
CN   Cetac 30
CN   Cetrimonium chloride
CN   **Cetyltrimethylammonium chloride**
CN   CTAC
CN   CTMA
CN   Dehyquart A
CN   Dehyquart A-CA
CN   Dodigen 1383
CN   FSM 28
CN   Genamin CTAC
CN   HDTMA-Cl
CN   HTAC
CN   Incroquat CTC 30
CN   Intexan CTC 29
CN   Intexsan CTC 29
CN   Intexsan CTC 50
CN   Lebon TM 16
CN   Lebon TM 60
CN   Morpan CHA
CN   N,N,N-Trimethyl-1-hexadecanaminium chloride
CN   n-Hexadecyltrimethylammonium chloride
CN   Nissan Cation PB 40
CN   Palmityltrimethylammonium chloride
CN   PB 40
CN   Pionin B 611
CN   Quartamin 60W
CN   Quatramine C 16/29
CN   Surfroyal CTAC
CN   Swanol CA 2350
CN   Trimethylcetylammonium chloride
CN   Trimethylhexadecylammonium chloride
CN   Variquat E 228

ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT - Use FCN, FIDE, or ALL for
     DISPLAY
DR   139272-33-6, 146909-27-5, 79728-63-5, 53023-95-3, 217468-43-4
MF   C19 H42 N . Cl
CI   COM
LC   STN Files: AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS, BIOSIS,
        BIOTECHNO, CA, CAOLD, CAPLUS, CASREACT, CEN, CHEMCATS, CHEMINFORMRX,
        CHEMLIST, CIN, CSCHEM, DDFU, DETHERM*, DRUGU, EMBASE, GMELIN*, HSDB*,
        IFICDB, IFIPAT, IFIUDB, IPA, MSDS-OHS, NIOSHTIC, PIRA, PROMT, RTECS*,
        TOXCENTER, USPAT2, USPATFULL
          (*File contains numerically searchable property data)
        Other Sources: DSL**, EINECS**, TSCA**
          (**Enter CHEMLIST File for up-to-date regulatory information)
CRN   (6899-10-1)

$Me_3{}^+N-(CH_2)_{15}-Me$

        ⊕ Cl⁻

                3154 REFERENCES IN FILE CA (1967 TO DATE)
                  64 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
                3161 REFERENCES IN FILE CAPLUS (1967 TO DATE)
                  36 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> e ammonium bicitrate/cn
E1   1   AMMONIUM BICARBONATE-DTPA MIXT./CN
E2   1   AMMONIUM BICHROMATE/CN
E3   0 --> AMMONIUM BICITRATE/CN
E4   1   AMMONIUM BIFLUORIDE/CN
E5   1   AMMONIUM BIFLUORIDE (NH4HF2)/CN
E6   1   AMMONIUM BIFLUORIDE (NH5F2)/CN
E7   1   AMMONIUM BIMALATE/CN
E8   1   AMMONIUM BIOXALATE/CN
E9   1   AMMONIUM BIOXALATE MONOHYDRATE/CN
E10   1   AMMONIUM BIPHENYL-4-SULFONATE/CN
E11   1   AMMONIUM BIPHOSPHATE/CN
E12   1   AMMONIUM BIPHOSPHITE/CN

=> e ammonium dicitrate/cn
E1   1   AMMONIUM DICHROMATE ((ND4)2CR2O7)/CN
E2   1   AMMONIUM DICHROMATE(VI)/CN
E3   0 --> AMMONIUM DICITRATE/CN
E4   1   AMMONIUM DICOBALTO DECAMOLYBDATE/CN
E5   1   AMMONIUM DICOBALTOUNDECATUNGSTATE/CN
E6   1   AMMONIUM DICYANAMIDE/CN
E7   1   AMMONIUM DICYANOCARBONYLCYCLOPENTADIENYLFERRATE(II)/CN
E8   1   AMMONIUM DICYANOTHIOCYANATOMERCURATE(II)/CN
E9   1   AMMONIUM DICYCLOHEXYLDITHIOPHOSPHINATE/CN
E10   1   AMMONIUM DIDEUTERIUM PHOSPHATE/CN
E11   1   AMMONIUM DIDODECYLDIPHENYL ETHER DISULFONATE/CN
E12   1   AMMONIUM DIETHANOLDITHIOCARBAMATE/CN

=> e ammonium citrate/cn
E1   1   AMMONIUM CIS-TETRABROMOBIS(PYRIDINE)MOLYBDATE(1-)/CN
E2   1   AMMONIUM CITRACONAMATE/CN
E3   3 --> AMMONIUM CITRATE/CN

```
E4          1       AMMONIUM CITRATE ((NH4)2O7C6H6)/CN
E5          1       AMMONIUM CITRATE ((NH4)3O7C6H5)/CN
E6          1       AMMONIUM CITRATE ((NH4)O7C6H7)/CN
E7          1       AMMONIUM CLAVULANATE/CN
E8          1       AMMONIUM COBALT ACETATE/CN
E9          1       AMMONIUM COBALT CARBONATE HYDROXIDE ((NH4)2CO8(CO3)6(OH)6) T
                    ETRAHYDRATE/CN
E10         1       AMMONIUM COBALT CARBONATE HYDROXIDE ((NH4)CO4(CO3)3(OH)3)/CN
E11         1       AMMONIUM COBALT CARBONATE HYDROXIDE ((NH4)CO4(CO3)3(OH)3), D
                    IHYDRATE/CN
E12         1       AMMONIUM COBALT CHLORIDE (NH4COCL3), DIHYDRATE/CN

=> s e3
L6              3 "AMMONIUM CITRATE"/CN

=> d 16


L6     ANSWER 1 OF 3  REGISTRY  COPYRIGHT 2002 ACS
RN     7632-50-0   REGISTRY
CN     1,2,3-Propanetricarboxylic acid, 2-hydroxy-, ammonium salt (9CI)   (CA
       INDEX NAME)
OTHER CA INDEX NAMES:
CN     Citric acid, ammonium salt (8CI)
OTHER NAMES:
CN     Ammonium citrate
MF     C6 H8 O7 . x H3 N
CI     COM
LC     STN Files:   AGRICOLA, BEILSTEIN*, BIOBUSINESS, BIOSIS, CA, CAOLD, CAPLUS,
       CASREACT, CHEMCATS, CHEMLIST, CIN, CSCHEM, DIOGENES, EMBASE, GMELIN*,
       IFICDB, IFIPAT, IFIUDB, PDLCOM*, PIRA, PROMT, RTECS*, TOXCENTER, TULSA,
       USPAT2, USPATFULL
           (*File contains numerically searchable property data)
       Other Sources:   DSL**, EINECS**, TSCA**
           (**Enter CHEMLIST File for up-to-date regulatory information)
CRN    (77-92-9)
```
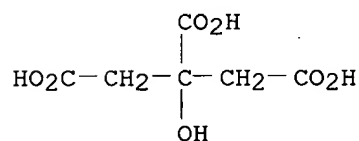
$$HO_2C-CH_2-\underset{\underset{OH}{|}}{\overset{\overset{CO_2H}{|}}{C}}-CH_2-CO_2H$$

$$\bullet x \ \ NH_3$$

```
       652 REFERENCES IN FILE CA (1967 TO DATE)
         3 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
       660 REFERENCES IN FILE CAPLUS (1967 TO DATE)
         1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)


=> e potassium citrate/cn
E1          1       POTASSIUM CIS-DIAQUABIS(OXALATO)CHROMATE(1-)/CN
E2          1       POTASSIUM CIS-DIAQUADIOXALATOCHROMATE(1-)/CN
E3          3 -->   POTASSIUM CITRATE/CN
E4          1       POTASSIUM CITRATE (K2H(O7C6H5))/CN
E5          1       POTASSIUM CITRATE (K2O7C6H6)/CN
E6          1       POTASSIUM CITRATE (KH2(O7C6H5))/CN
E7          1       POTASSIUM CITRATE, EFFERVESCENT/CN
```

```
E8            1      POTASSIUM CLAVULANATE/CN
E9            1      POTASSIUM CLOFIBRATE/CN
E10           1      POTASSIUM CLUSTER (K10)/CN
E11           1      POTASSIUM CLUSTER (K12)/CN
E12           1      POTASSIUM CLUSTER (K18)/CN

=> s e3
L7                3 "POTASSIUM CITRATE"/CN

=> d l7


L7    ANSWER 1 OF 3   REGISTRY   COPYRIGHT 2002 ACS
RN    7778-49-6   REGISTRY
CN    1,2,3-Propanetricarboxylic acid, 2-hydroxy-, potassium salt (9CI)   (CA
      INDEX NAME)
OTHER CA INDEX NAMES:
CN    Citric acid, potassium salt (8CI)
OTHER NAMES:
CN    Potassium citrate
MF    C6 H8 O7 . x K
CI    COM
LC    STN Files:   ADISNEWS, AGRICOLA, BEILSTEIN*, BIOBUSINESS, BIOSIS,
         BIOTECHNO, CA, CAPLUS, CHEMCATS, CHEMLIST, CIN, CSCHEM, DETHERM*,
         DIOGENES, EMBASE, GMELIN*, IFICDB, IFIPAT, IFIUDB, PDLCOM*, PIRA, PROMT,
         TOXCENTER, TULSA, USPAT2, USPATFULL
           (*File contains numerically searchable property data)
      Other Sources:   EINECS**, NDSL**, TSCA**
           (**Enter CHEMLIST File for up-to-date regulatory information)
CRN   (77-92-9)
```
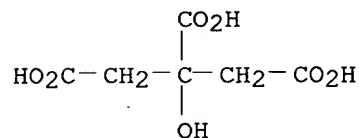
$$HO_2C-CH_2-\underset{\underset{OH}{|}}{\overset{\overset{CO_2H}{|}}{C}}-CH_2-CO_2H$$

●x K

```
         662 REFERENCES IN FILE CA (1967 TO DATE)
           4 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
         666 REFERENCES IN FILE CAPLUS (1967 TO DATE)


=> e sodium citrate/cn
E1            1      SODIUM CITRACONATE/CN
E2            1      SODIUM CITRACONATE-STYRENE COPOLYMER/CN
E3            2 -->  SODIUM CITRATE/CN
E4            1      SODIUM CITRATE (NA2O7C6H6)/CN
E5            1      SODIUM CITRATE (NA3C6D5O7)/CN
E6            1      SODIUM CITRATE (NA3C6H5O7)/CN
E7            1      SODIUM CITRATE (NAC6H7O7)/CN
E8            1      SODIUM CITRATE ANHYDROUS/CN
E9            1      SODIUM CITRATE DIHYDRATE/CN
E10           1      SODIUM CITRATE HYDRATE/CN
E11           1      SODIUM CITRATE PHOSPHATE/CN
E12           1      SODIUM CLAVULANATE/CN

=> s e3
```

```
L8                2 "SODIUM CITRATE"/CN

=> d 18

L8    ANSWER 1 OF 2  REGISTRY  COPYRIGHT 2002 ACS
RN    994-36-5  REGISTRY
CN    1,2,3-Propanetricarboxylic acid, 2-hydroxy-, sodium salt (9CI)  (CA INDEX
      NAME)
OTHER CA INDEX NAMES:
CN    Citric acid, sodium salt (8CI)
OTHER NAMES:
CN    Bicitra
CN    Pneucid
CN    Sodium citrate
DR    7775-43-1
MF    C6 H8 O7 . x Na
CI    COM
LC    STN Files:  ADISNEWS, AGRICOLA, BEILSTEIN*, BIOBUSINESS, BIOSIS,
         BIOTECHNO, CA, CAOLD, CAPLUS, CASREACT, CEN, CHEMCATS, CHEMLIST, CIN,
         DIOGENES, EMBASE, GMELIN*, IFICDB, IFIPAT, IFIUDB, PDLCOM*, PIRA, PROMT,
         TOXCENTER, TULSA, USPAT2, USPATFULL
            (*File contains numerically searchable property data)
      Other Sources:  EINECS**, NDSL**, TSCA**
            (**Enter CHEMLIST File for up-to-date regulatory information)
CRN   (77-92-9)
```
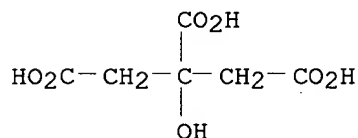
$$HO_2C - CH_2 - \overset{\displaystyle CO_2H}{\underset{\displaystyle OH}{\overset{|}{\underset{|}{C}}}} - CH_2 - CO_2H$$

●x Na

```
         2993 REFERENCES IN FILE CA (1967 TO DATE)
           18 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
         2999 REFERENCES IN FILE CAPLUS (1967 TO DATE)
            5 REFERENCES IN FILE CAOLD (PRIOR TO 1967)


=> e citric acid/cn
E1          1      CITRIC .ALPHA.-CYCLOHEXYLAMIDE/CN
E2          1      CITRIC .BETA.-CYCLOHEXYLAMIDE/CN
E3          1 -->  CITRIC ACID/CN
E4          1      CITRIC ACID 2-METHYLIMIDAZOLE SALT/CN
E5          1      CITRIC ACID 2-STEARYLOXYETHYL ESTER/CN
E6          1      CITRIC ACID CALCIUM MAGNESIUM SALT/CN
E7          1      CITRIC ACID CHLORALIDE/CN
E8          1      CITRIC ACID CHLORIDE/CN
E9          1      CITRIC ACID DIAMIDE/CN
E10         1      CITRIC ACID DISODIUM SALT TETRAHYDRATE/CN
E11         1      CITRIC ACID EUROPIUM(3+) SALT (2:1) TETRAHYDRATE/CN
E12         1      CITRIC ACID GADOLINIUM(3+) SALT (2:1) TETRAHYDRATE/CN

=> s e3
L9          1 "CITRIC ACID"/CN
```

```
=> d 19

L9    ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2002 ACS
RN    77-92-9  REGISTRY
CN    1,2,3-Propanetricarboxylic acid, 2-hydroxy- (9CI)   (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN    Citric acid (8CI)
OTHER NAMES:
CN    2-Hydroxy-1,2,3-propanetricarboxylic acid
CN    3-Carboxy-3-hydroxypentane-1,5-dioic acid
CN    Aciletten
CN    Chemfill
CN    Citretten
CN    Citro
CN    F 0001 (polycarboxylic acid)
CN    Hydrocerol A
CN    Uro-trainer
FS    3D CONCORD
DR    12262-73-6, 43136-35-2, 245654-34-6
MF    C6 H8 O7
CI    COM
LC    STN Files:   ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS,
         BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB,
         CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, CSNB, DDFU,
         DETHERM*, DIOGENES, DIPPR*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2,
         ENCOMPPAT, ENCOMPPAT2, GMELIN*, HODOC*, HSDB*, IFICDB, IFIPAT, IFIUDB,
         IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, NIOSHTIC, PDLCOM*,
         PHARMASEARCH, PIRA, PROMT, RTECS*, SPECINFO, SYNTHLINE, TOXCENTER,
         TULSA, USAN, USPAT2, USPATFULL, VETU, VTB
            (*File contains numerically searchable property data)
         Other Sources:   DSL**, EINECS**, TSCA**
            (**Enter CHEMLIST File for up-to-date regulatory information)
```
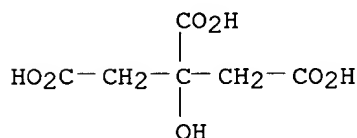
$$HO_2C-CH_2-\underset{\underset{OH}{|}}{\overset{\overset{CO_2H}{|}}{C}}-CH_2-CO_2H$$

```
**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

           37364 REFERENCES IN FILE CA (1967 TO DATE)
            2475 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
           37445 REFERENCES IN FILE CAPLUS (1967 TO DATE)
               9 REFERENCES IN FILE CAOLD (PRIOR TO 1967)


=>
```

CAS roles have been modified effective December 16, 2001. Please
check your SDI profiles to see if they need to be revised. For
information on CAS roles, enter HELP ROLES at an arrow prompt or use
the CAS Roles thesaurus (/RL field) in this file.

```
=> s (slurry or cmp or (chemical mechanical polish?) or planariz? or polish?) and
(semiconductor or substrate)
           78691 SLURRY                                                    •
            7259 CMP
          771020 CHEMICAL
          206648 MECHANICAL
           73604 POLISH?
            1184 CHEMICAL MECHANICAL POLISH?
                 (CHEMICAL(W)MECHANICAL(W)POLISH?)
            5206 PLANARIZ?
           73604 POLISH?
          377322 SEMICONDUCTOR
          637266 SUBSTRATE
L10        17278 (SLURRY OR CMP OR (CHEMICAL MECHANICAL POLISH?) OR PLANARIZ? OR
                 POLISH?) AND (SEMICONDUCTOR OR SUBSTRATE)


=> l0 and l4
         3203071 l0
           11418 L4
L11         2250 l0 AND L4


=> s l10 and l4
           11418 L4
L12            6 L10 AND L4


=> d l12, 1-6, all
```

L12   ANSWER 1 OF 6   CAPLUS   COPYRIGHT 2002 ACS
AN   2002:309725   CAPLUS
DN   136:333824
TI   **Chemical-mechanical polishing** methods using
      various surfactants
IN   Andreas, Michael T.
PA   Micron Technology, Inc., USA
SO   U.S., 7 pp.
      CODEN: USXXAM
DT   Patent
LA   English
IC   ICM B24B001-00
NCL   451041000
CC   76-3 (Electric Phenomena)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 6375548	B1	20020423	US 1999-475545	19991230
US 2002052173	A1	20020502	US 2001-990706	20011120
PRAI US 1999-475545	A3	19991230		

AB   A chem.-mech. **polishing** (**CMP**) method includes applying
      a solid abrasive material to a **substrate, polishing**
      the **substrate,** flocculating at least a portion of the abrasive
      material, and removing at least a majority portion of the flocculated
      portion from the **substrate.** Applying solid abrasive material
      can include applying a **CMP slurry** or a
      polishing pad comprising abrasive material. Such a method can
      further include applying a surfactant comprising material to the
      substrate to assist in effectuating flocculation of the abrasive
      material. Such surfactant comprising material may be cationic which

includes, e.g., a quaternary NH4+ substituted salt. Also, e.g., the
        surfactant comprising material may be applied during **polishing**,
        brush scrubbing, pressure spraying, or buffing.
ST   chem mech **polishing** surfactant **slurry**
IT   Alcohols, processes
       RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical
       process); PYP (Physical process); PROC (Process); USES (Uses)
           (C11-14, ethoxylated, Renex 36, **polishing** surfactant;
           chem.-mech. **polishing** methods using various surfactants)
IT   Surfactants
           (cationic; chem.-mech. **polishing** methods using various
           surfactants)
IT   Abrasives
       Flocculation
       Surfactants
           (chem.-mech. **polishing** methods using various surfactants)
IT   Slurries
           (chem.-mech. **polishing**; chem.-mech. **polishing**
           methods using various surfactants)
IT   **Polishing**
           (chem.-mech.; chem.-mech. **polishing** methods using various
           surfactants)
IT   Quaternary ammonium compounds, processes
       RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical
       process); PYP (Physical process); PROC (Process); USES (Uses)
           (coco alkylbis(hydroxyethyl)methyl, ethoxylated, chlorides, Ethoquad C
           25, **polishing** surfactant; chem.-mech. **polishing**
           methods using various surfactants)
IT   Quaternary ammonium compounds, processes
       RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical
       process); PYP (Physical process); PROC (Process); USES (Uses)
           (polyethoxylated, **polishing** surfactants; chem.-mech.
           polishing methods using various surfactants)
IT   1306-38-3, Ceria, processes
       RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical
       process); PYP (Physical process); PROC (Process); USES (Uses)
           (**polishing** abrasive; chem.-mech. **polishing** methods
           using various surfactants)
IT   **57-09-0**, Rhodaquat M 242B/99   6899-10-1, Cetyltrimethyl ammonium
       9005-65-6, Alkamuls PSMO 20   9014-93-1, Igepal DM 710   24938-91-8, Renex
       30   28724-32-5, Ethoquad 18/25   51811-79-1, Rhodafac RE 610
       106392-12-5, Antarox P 104   167290-55-3, Surfynol CT-131   414869-50-4,
       Surfynol CT 141   414869-51-5, Surfynol CT 324   414869-66-2, Anti-Terra U
       80
       RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical
       process); PYP (Physical process); PROC (Process); USES (Uses)
           (**polishing** surfactant; chem.-mech. **polishing**
           methods using various surfactants)
RE.CNT 10   THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Andreas; US 6265781 B1 2001 CAPLUS
(2) Basi; US 4050954 A 1977 CAPLUS
(3) Brunner; US 5049200 A 1991
(4) George; US 6152148 A 2000 CAPLUS
(5) Grieger; US 5855811 A 1999 CAPLUS
(6) Grieger; US 6044851 A 2000 CAPLUS
(7) Malik; US 5078801 A 1992
(8) Muynh; US 5704987 A 1998
(9) Roy; US 5996594 A 1999 CAPLUS
(10) Shemo; US 6258140 B1 2001 CAPLUS

L12 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2002 ACS

```
AN      2001:935926  CAPLUS
DN      136:62548
TI      Aqueous ceria slurry with surfactants for decreased defects in
        chemical-mechanical polishing of Si wafers
IN      Nojo, Haruki; Pandey, Sumit; Stephens, Jeremy; Ramachandran, Ravikumar
PA      Infineon Technologies North America Corp., USA; International Business
        Machines Corporation; Kabushiki Kaisha Toshiba
SO      PCT Int. Appl., 16 pp.
        CODEN: PIXXD2
DT      Patent
LA      English
IC      ICM  H01L021-306
CC      76-3 (Electric Phenomena)
        Section cross-reference(s): 57
FAN.CNT 1
        PATENT NO.          KIND  DATE         APPLICATION NO.  DATE
        ---------------     ----  --------     ---------------  --------
PI      WO 2001099170       A2    20011227     WO 2001-US19656  20010620
        WO 2001099170       A3    20020502
           W:  CN, JP, KR
           RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
               PT, SE, TR
PRAI    US 2000-597125      A     20000620
AB      The aq. slurry for chem.-mech. polishing of Si-
        semiconductor wafers contains: (a) <5% by wt. of CeO2 powder as
        the abrasive particles; (b) cationic surfactant at <0.01M (up to crit.
        micelle concn.) of a cationic surfactant; (c) optional anionic surfactant
        at 2-6% by wt.; and (d) optional nonionic surfactant at .ltoreq.1% by wt.
        The cationic surfactant is typically C6-18-alkyl trimethylammonium and
        similar compds., esp. hexadecyl trimethylammonium bromide or cetyl
        pyridinium chloride . The aq. ceria slurry is prepd. with the
        neutral or alk. pH, and decreases the surface defects in polishing
        of Si wafers for integrated elec. circuits.
ST      silicon wafer chem mech polishing aq slurry
        surfactant; ceria aq surfactant slurry polishing
        semiconductor wafer
IT      Surfactants
           (anionic, polishing slurry with; aq. ceria
           slurry with surfactants for low defects in polishing
           of Si wafers)
IT      Surfactants
           (cationic, polishing slurry with; aq. ceria
           slurry with surfactants for low defects in polishing
           of Si wafers)
IT      Polishing
           (chem.-mech.; aq. ceria slurry for decreased defects in
           chem.-mech. polishing of Si wafers)
IT      Surfactants
           (nonionic, polishing slurry with; aq. ceria
           slurry with surfactants for low defects in polishing
           of Si wafers)
IT      Semiconductor materials
           (polishing of; aq. ceria slurry for decreased
           defects in chem.-mech. polishing of Si wafers)
IT      Surfactants
           (polishing slurry with; aq. ceria slurry
           with surfactants for low defects in polishing of Si wafers)
IT      Integrated circuits
           (wafers, polishing slurry for; aq. ceria
           slurry with surfactants for low defects in polishing
           of Si wafers)
IT      57-09-0, Hexadecyl trimethylammonium bromide   123-03-5, Cetyl
```

pyridinium chloride   2016-56-0, Dodecylammonium acetate   3529-04-2,
Hexadecyl benzyl dimethylammonium bromide   7281-04-1, Dodecyl benzyl
dimethylammonium bromide   9002-89-5, Polyvinyl alcohol   9003-05-8,
Polyacrylamide
RL: MOA (Modifier or additive use); USES (Uses)
    (**polishing slurry** contg.; aq. ceria **slurry**
    for decreased defects in chem.-mech. **polishing** of Si wafers)
IT   1306-38-3, Ceria, uses
RL: TEM (Technical or engineered material use); USES (Uses)
    (powder, **polishing slurry** with; aq. ceria
    slurry for decreased defects in chem.-mech. **polishing**
    of Si wafers)
IT   7440-21-3, Silicon, processes
RL: EPR (Engineering process); PEP (Physical, engineering or chemical
process); PROC (Process)   ·
    (wafer, **polishing** of; aq. ceria **slurry** for
    decreased defects in chem.-mech. **polishing** of Si wafers)

L12   ANSWER 3 OF 6   CAPLUS   COPYRIGHT 2002 ACS
AN   2001:247428   CAPLUS
DN   134:267851
TI   Aqueous slurryless compositions and methods for **chemical
      mechanical polishing** silicon dioxide wafers with
      reducing or eliminating scratches and defects
IN   Nojo, Haruki; Schutz, Ronald J.; Ramachandran, Ravikumar
PA   Infineon Technologies North America Corp., USA; International Business
      Machines Corporation
SO   PCT Int. Appl., 14 pp.
      CODEN: PIXXD2
DT   Patent
LA   English
IC   ICM C09G001-02
      ICS H01L021-3105
CC   42-11 (Coatings, Inks, and Related Products)
      Section cross-reference(s): 76
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001023486	A1	20010405	WO 2000-US24342	20000905
	W: CN, JP, KR				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	US 6303506	B1	20011016	US 1999-409464	19990930
	EP 1218466	A1	20020703	EP 2000-963316	20000905
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
PRAI	US 1999-409464	A	19990930		
	WO 2000-US24342	W	20000905		

AB   The **polishing** compn. comprises a cationic surfactant which is
      sol. and ionized at neutral to alk. pH selected from an
      alkyltrimethylammonium halide, an alkylbenzyldimethylammonium halide, a
      pyridiniumalkyl halide, and/or an alkylammonium ester, wherein the
      cationic surfactant is present in an aq. **slurry**-less compn. in
      an amt. less than its crit. micelle concn.
ST   surfactant cationic compn chem mech **polishing**; silicon dioxide
      polishing quaternary ammonium compd
IT   Quaternary ammonium compounds, uses
RL: TEM (Technical or engineered material use); USES (Uses)
    (alkylbenzyldimethyl, halides, cationic surfactants; aq. slurryless
    compns. and methods for chem. mech. **polishing** silicon dioxide
    wafers with reducing or eliminating scratches and defects)
IT   Quaternary ammonium compounds, uses

RL: TEM (Technical or engineered material use); USES (Uses)
(alkyltrimethyl, halides, cationic surfactants; aq. slurryless compns.
and methods for chem. mech. **polishing** silicon dioxide wafers
with reducing or eliminating scratches and defects)

IT   **Polishing** materials
        Semiconductor devices
        (aq. slurryless compns. and methods for chem. mech. **polishing**
        silicon dioxide wafers with reducing or eliminating scratches and
        defects)

IT   Surfactants
        (cationic; aq. slurryless compns. and methods for chem. mech.
        polishing silicon dioxide wafers with reducing or eliminating
        scratches and defects)

IT   **Polishing**
        (chem.-mech.; aq. slurryless compns. and methods for chem. mech.
        polishing silicon dioxide wafers with reducing or eliminating
        scratches and defects)

IT   Pyridinium compounds
        RL: TEM (Technical or engineered material use); USES (Uses)
        (halides, cationic surfactants; aq. slurryless compns. and methods for
        chem. mech. **polishing** silicon dioxide wafers with reducing or
        eliminating scratches and defects)

IT   7631-86-9, Silicon dioxide, miscellaneous
        RL: MSC (Miscellaneous)
        (aq. slurryless compns. and methods for chem. mech. **polishing**
        silicon dioxide wafers with reducing or eliminating scratches and
        defects)

IT   **57-09-0**, Hexadecyltrimethylammonium bromide   123-03-5,
        Cetylpyridinium chloride   2016-56-0, Dodecylammonium acetate   3529-04-2,
        Hexadecylbenzyldimethylammonium bromide   7281-04-1,
        Dodecylbenzyldimethylammonium bromide   9002-89-5, Polyvinyl alcohol
        9003-01-4, Poly(acrylic acid)   9003-05-8, Polyacrylamide   28214-57-5,
        Poly(ammonium acrylate)
        RL: TEM (Technical or engineered material use); USES (Uses)
        (aq. slurryless compns. and methods for chem. mech. **polishing**
        silicon dioxide wafers with reducing or eliminating scratches and
        defects)

RE.CNT 2   THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Hitachi Chem Co Ltd; JP 10102040 A 1998 CAPLUS
(2) Hitachi Ltd; EP 0913442 A 1999 CAPLUS

L12   ANSWER 4 OF 6 CAPLUS   COPYRIGHT 2002 ACS
AN   1998:129438   CAPLUS
DN   128:212327
TI   Synthesis, characterization and sensing application of novel
      semiconductor oxides
AU   Li, G. -J.; Kawi, S.
CS   Department of Chemical Engineering, National University of Singapore,
      Singapore, 119260, Singapore
SO   Talanta (1998), 45(4), 759-766
      CODEN: TLNTA2; ISSN: 0039-9140
PB   Elsevier Science B.V.
DT   Journal
LA   English
CC   79-6 (Inorganic Analytical Chemistry)
      Section cross-reference(s): 59

AB   Mesoporous SnO_2 with high surface areas was synthesized using a cationic
      surfactant (N-cetyl-N,N,N-trimethylammonium bromide) as a synthetic
      template. The acidity of the starting synthesis **slurry** was used
      as one of the controlling parameters for the synthesis. After the SnO_2
      was synthesized at pH 7.15, it was calcined at 723 K for 10 h in air. It

had a BET surface area of 156.8 m2/g, with a pore diam. of 38.4 .ANG.. IR
spectroscopy (FTIR) and thermal anal. techniques (thermogravimetry and
DTA) showed that the surfactant was incorporated in the mesopores of SnO2
and calcination in air at 673-723 K was needed to remove the surfactant
completely from the mesopores. The effects of SnO2 surface area on its
gas-sensing properties were also investigated. It was obsd. that SnO2
with higher surface areas had much higher sensitivities to hydrogen at 573
K.

ST   tin oxide mesoporous prepn characterization sensor; cetyltrimethylammonium
      bromide mesoporous tin oxide sensor; hydrogen sensor mesoporous tin oxide
IT   1333-74-0, Hydrogen, analysis
      RL: ANT (Analyte); ANST (Analytical study)
          (detn. of; synthesis, characterization and sensing application of novel
          high-surface-area mesoporous SnO **semiconductor** oxides)
IT   **57-09-0,** N-Cetyl-N,N,N-trimethylammonium bromide
      RL: NUU (Other use, unclassified); TEM (Technical or engineered material
      use); USES (Uses)
          (in synthesis of novel high-surface-area mesoporous SnO
          semiconductor oxides)
IT   18282-10-5, Tin oxide (SnO2)
      RL: ARG (Analytical reagent use); DEV (Device component use); ANST
      (Analytical study); USES (Uses)
          (mesoporous; synthesis, characterization and sensing application of
          novel high-surface-area mesoporous SnO **semiconductor** oxides)

L12   ANSWER 5 OF 6 CAPLUS COPYRIGHT 2002 ACS
AN   1979:179048 CAPLUS
DN   90:179048
TI   Post-**polishing** cleaning of **semiconductor** surfaces
IN   Basi, Jagtar S.
PA   International Business Machines Corp., USA
SO   U.S., 3 pp.
      CODEN: USXXAM   surfact used as cleaners
DT   Patent
LA   English
IC   B08B003-08
NCL   134002000
CC   76-13 (Electric Phenomena)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4129457	A	19781212	US 1977-799886	19770523
	JP 54000862	A2	19790106	JP 1978-28784	19780315
	JP 56045295	B4	19811026		
	GB 1575858	A	19801001	GB 1978-12121	19780328
	FR 2391830	A1	19781222	FR 1978-11798	19780414
	FR 2391830	B1	19801031		
	DE 2820608	A1	19781130	DE 1978-2820608	19780511
PRAI	US 1977-799886		19770523		

AB   **Semiconductor** surfaces are cleaned after **polishing**
      with a **slurry** contg. colloidal SiO2. The colloidal SiO2 is
      removed by using an aq. quaternary ammonium salt soln. contg. .gtoreq.0.1
      wt.% of the salt, which can be represented by the formula: [R1R2R3R4N+]
      X-, where R1 is a long-chain alkyl group contg. .apprx.12-18 carbons; R2,
      R3, and R4 are selected from the group consisting of lower alkyl groups
      and substituted lower alkyl groups with 1-7 carbons; X- is an anion. The
      SiO2 is coagulated and suspended in soln. An aq. NH4OH soln. contg.
      .apprx.3-5 wt.% NH4OH is used to remove heavy metal ion contaminants.
      Examples are given showing the use of (a) a 0.5 wt.% soln. of mixed alkyl
      (C12-C18) dimethylbenzyl ammonium chlorides and (b) a 0.5 wt.% soln. of
      cetyldimethylethyl ammonium bromide or cetyltrimethylammonium bromide.
ST   silica removal **polished** silicon; quaternary ammonium salt silica

```
      removal; hydride ammonium cleaning silicon
IT    Quaternary ammonium compounds, uses and miscellaneous
      RL: USES (Uses)
          (in cleaning of silicon surfaces after polishing)
IT    Polishing
          (of silicon with colloidal silica, cleaning after)
IT    7631-86-9, uses and miscellaneous
      RL: USES (Uses)
          (colloidal, polishing of silicon with, cleaning after)
IT    57-09-0    122-18-9    122-19-0    124-03-8    139-07-1    139-08-2
      1336-21-6
      RL: USES (Uses)
          (in cleaning of silicon surfaces after polishing)
IT    7440-21-3, uses and miscellaneous
      RL: USES (Uses)
          (polishing of, with colloidal silica, cleaning after)

L12   ANSWER 6 OF 6  CAPLUS   COPYRIGHT 2002 ACS
AN    1967:501302   CAPLUS
DN    67:101302
TI    Soiling and detergency.  III.  Detergency experiments with particulate
      carbon soils
AU    Grindstaff, Teddy H.; Patterson, Hugh T.; Billica, Harry R.
CS    E. I. du Pont de Nemours and Co. Inc., Kinston, N. C., USA
SO    Text. Res. J. (1967), 37(7), 564-73
      CODEN: TRJOA9
DT    Journal
LA    English
CC    46 (Surface Active Agents and Detergents)
AB    cf. CA 64: 19864f.  The use of Na lauryl sulfate (I),
      cetyltrimethylammonium bromide (II), and nonylphenyl polyethylene glycol
      (III) as surfactant solns. to desorb hydrophobic and hydrophilic
      particulate 14C from nylon, poly(ethylene terephthalate) and cellulose
      fabrics and films was studied in the presence and absence of fatty soil.
      Fatty soil was prepd. by mixing glyceryl tristearate 30, stearic acid 30,
      octadecyl alc. 20, and octadecane 20% in CCl4 to give a concn. of 8
      mg./ml.  Particulate C soil was prepd. by suspending 20 mg. hydrophobic
      14C in 50 ml. CCl4 to give a 0.005 mc./mg. activity soln.  Film samples
      were mounted drumhead fashion over the end of a gasflow Geiger tube and
      were solid by depositing 8 mg. of fatty soil on the film and evapg. the
      solvent, then 1 ml. aliquot of a 20 mg. tagged particulate C in 50 ml.
      CCl4 was pipetted onto the film, the solvent evapd., and the soiled film
      polished.  Desorption isotherms were obtained by submerging of
      300-ml. aliquot surfactant solns. beneath the Geiger tubes.  Fabric
      samples were mounted on rings and were soiled as above.  Sorption data
      were obtained by stirring for 15 min. 300 ml. of a soln. contg. 0.8 mg.
      14C and the detergent with a 1.5-in.-diam. fabric sample and detg. the
      activity after they had dried.  The effect of the amt. of C on the
      surface, polymer substrate type, surfactant type, temp., fatty
      soil, wettability of the particulate soil, and bleach were studied and
      presented graphically.  Results showed that hydrophilic C was easier to
      remove than hydrophobic C, and that the addn. of hypochlorite bleach to
      anionic surfactant solns. increased their ability to remove hydrophobic C.
      The presence of fatty soil did not significantly decrease the extent of
      removal of particulate C from fabric samples.  Particulate C was easier to
      remove from cellulose than from polyester and nylon films.
ST    LAURYL SULFATE SURFACTANTS; CETYLTRIMETHYLAMMONIUM SURFACTANTS;
      POLYETHYLENE GLYCOL SURFACTANTS; NYLON DETERGENTS; POLYETHYLENE
      TEREPHTHALATE DETERGENTS; CELLULOSE DETERGENTS
IT    Nylon, uses and miscellaneous
      RL: USES (Uses)
          (detergents for, soiled with particulate carbon)
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```
IT   Detergency
        (detn. of, particulate carbon soils in)
IT   Detergents, uses and miscellaneous
        (for carbon soil removal from cotton textiles, nylon, polyesters, etc.)
IT   Glycols, polyethylene, mono(nonylphenyl) ether
     Phenol, nonyl-, monoether with polyethylene glycol
     RL: PRP (Properties)
        (detergency of, detn. of, particulate carbon soils in)
IT   57-09-0   151-21-3, properties
     RL: PRP (Properties)
        (detergency of, detn. of, particulate carbon soils in)
IT   9003-68-3, uses and miscellaneous
     RL: USES (Uses)
        (detergents for, soiled with particulate carbon)
IT   9004-34-6, uses and miscellaneous
     RL: USES (Uses)
        (regenerated, detergents for films of, soiled with particulate carbon)


=> d his

     (FILE 'HOME' ENTERED AT 09:10:18 ON 23 AUG 2002)

     FILE 'REGISTRY' ENTERED AT 09:10:40 ON 23 AUG 2002
                 E CETYLTRIMETHYLAMMONIUM BROMIDE/CN
L1           1 S E3
L2           0 DH IS


     FILE 'CA' ENTERED AT 09:16:30 ON 23 AUG 2002
L3       11385 S L1


     FILE 'REGISTRY' ENTERED AT 09:19:05 ON 23 AUG 2002
                 E CETYLTRIMETHYLAMMONIUM BROMIDE/CN
L4           1 S E3
                 E CETYLTRIMETHYLAMMONIUM CHLORIDE/CN
L5           1 S E3
                 E AMMONIUM BICITRATE/CN
                 E AMMONIUM DICITRATE/CN
                 E AMMONIUM CITRATE/CN
L6           3 S E3
                 E POTASSIUM CITRATE/CN
L7           3 S E3
                 E SODIUM CITRATE/CN
L8           2 S E3
                 E CITRIC ACID/CN
L9           1 S E3


     FILE 'CAPLUS' ENTERED AT 09:47:11 ON 23 AUG 2002
L10      17278 S (SLURRY OR CMP OR (CHEMICAL MECHANICAL POLISH?) OR PLANARIZ?
L11       2250 10 AND L4
L12          6 S L10 AND L4

=> s l10 and l5
          3164 L5
L13          3 L10 AND L5

=> d l13, 1-3,all

L13  ANSWER 1 OF 3  CAPLUS  COPYRIGHT 2002 ACS
AN   2001:137315  CAPLUS
DN   134:194692
TI   Polishing system with stopping compound and method of its use
```

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2001012741	A1	20010222	WO 2000-US21952	20000810

      W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
           CR, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU,
           ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU,
           LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD,
           SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA,
           ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
      RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
           DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,
           CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

| EP 1218465 | A1 | 20020703 | EP 2000-952726 | 20000810 |

      R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
           IE, SI, LT, LV, FI, RO, MK, CY, AL
PRAI US 1999-148813P   P   19990813
      WO 2000-US21952   W   20000810

AB   The invention provides a system for **polishing** one or more layers
      of a multi-layer **substrate** that includes a first metal layer and
      a second layer comprising: (i) a liq. carrier, (ii) at least one oxidizing
      agent, (iii) at least one **polishing** additive that increases the
      rate at which the system **polishes** at least one layer of the
      substrate, (iv) at least one stopping compd. with a
      polishing selectivity of the first metal layer:second layer of at
      least about 30:1, wherein the stopping compd. is a cationically charged
      nitrogen contg. compd. selected from compds. comprising amines, imines,
      amides, imides, and mixts. thereof, and (v) a **polishing** pad
      and/or an abrasive. The invention also provides a method of
      polishing a **substrate** comprising contacting a surface of
      a **substrate** with the system and **polishing** at least a
      portion of the **substrate** therewith. Moreover, the invention
      provides a method for **polishing** one or more layers of a
      multi-layer **substrate** that includes a first metal layer and a
      second layer comprising: a) contacting the first metal layer with the
      system, and b) **polishing** the first metal layer with the system
      until at least a portion of the first metal layer is removed from the
      substrate. Moreover, the present invention provides a compn. for
      polishing one or more layers of a multi-layer **substrate**
      that includes a first metal layer and a second layer comprising: (i) liq.
      carrier, (ii) at least one oxidizing agent, (iii) at least one
      polishing additive that increases the rate at which the system
      polishes at least one layer of the **substrate**, (iv) at
      least one stopping compd. with a **polishing** selectivity of the
      first metal layer:second layer of at least about 30:1, wherein the
      stopping compd. is a cationically charged nitrogen contg. compd. selected
      from compds. comprising amines, imines, amides, imides, and mixts.
      thereof, to be used with (v) a **polishing** pad and/or an abrasive.
ST   **polish** abrasive stopping agent
IT   Abrasives
      Oxidizing agents
        Polishing materials
          (**polishing** system with stopping compd. and method of its use)

IT   Amides, uses
        Amines, uses
        Carboxylic acids, uses
        Imides
        Imines
        RL: MOA (Modifier or additive use); USES (Uses)
           (**polishing** system with stopping compd. and method of its use)
IT   Peroxides, uses
        RL: TEM (Technical or engineered material use); USES (Uses)
           (**polishing** system with stopping compd. and method of its use)
IT   Polyethers, uses
        RL: MOA (Modifier or additive use); USES (Uses)
           (polyamine-; **polishing** system with stopping compd. and method
           of its use)
IT   Polyamines
        RL: MOA (Modifier or additive use); USES (Uses)
           (polyether-; **polishing** system with stopping compd. and method
           of its use)
IT   56-18-8, N-(3-Aminopropyl)-1,3-propane diamine   56-87-1, Lysine, uses
        64-04-0, 2-Phenylethylamine   87-69-4, Tartaric acid, uses   96-20-8
        107-10-8, Propylamine, uses   109-55-7 **112-02-7**, Cetyltrimethyl
        ammonium chloride)   112-57-2, Tetraethylene-pentamine   124-09-4,
        Hexamethylenediamine, uses   616-29-5, 1,3-Diamino-2-propanol   929-06-6
        1122-28-7, 1H-Imidazole-4,5-dicarbonitrile   2809-21-4, Dequest 2010
        2855-13-2, Isophorone diamine   3312-60-5, N-Cyclohexyl-1,3-propane
        diamine   4246-51-9, 4,7,10-Trioxatridecane-1,13-diamine   6419-19-8,
        Dequest 2000   6864-37-5, 3,3'-Dimethyl-4,4'-diaminodicyclohexylmethane
        7209-38-3, 1,4-Bis(3-amino propyl) piperazine   9002-98-6,
        Polyethylenimine   10563-29-8   15827-60-8, Dequest 2060   16854-32-3,
        Thiomicamine   27195-72-8, Tetramethylbutanediamine   54303-31-0,
        3-[2-Methoxyethoxy]propylamine   316356-99-7, Lupasol SKA
        RL: MOA (Modifier or additive use); USES (Uses)
           (**polishing** system with stopping compd. and method of its use)
IT   1306-38-3, Ceria, uses   1310-53-8, Germania, uses   1314-23-4, Zirconia,
        uses   1344-28-1, Alumina, uses   7631-86-9, Silica, uses   7722-84-1,
        Hydrogen peroxide, uses   13463-67-7, Titania, uses
        RL: TEM (Technical or engineered material use); USES (Uses)
           (**polishing** system with stopping compd. and method of its use)
IT   7440-25-7, Tantalum, miscellaneous   7440-50-8, Copper, miscellaneous
        RL: MSC (Miscellaneous)
           (wafers; **polishing** system with stopping compd. and method of
           its use)
RE.CNT 3   THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Cabot Corp; EP 0846742 A 1998 CAPLUS
(2) Cabot Corp; EP 0896042 A 1999 CAPLUS
(3) Higuchi, M; US 5770095 A 1998 CAPLUS

L13   ANSWER 2 OF 3 CAPLUS COPYRIGHT 2002 ACS
AN   2001:137314 CAPLUS
DN   134:194691
TI   **Polishing** system and method of its use
IN   Wang, Shumin; Kaufman, Vlasta Brusic; Grumbine, Steven K.; Zhou, Renjie;
       Cherian, Isaac K.
PA   Cabot Microelectronics Corporation, USA
SO   PCT Int. Appl., 32 pp.
       CODEN: PIXXD2
DT   Patent
LA   English
IC   ICM C09G001-02
CC   42-11 (Coatings, Inks, and Related Products)
FAN.CNT 2

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       PATENT NO.        KIND  DATE         APPLICATION NO.   DATE
       --------------    ----  --------     ---------------   --------
PI     WO 2001012740      A1   20010222        WO 2000-US21938   20000810
           W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
               CR, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU,
               ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU,
               LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD,
               SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA,
               ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
           RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
               DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,
               CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
       EP 1226220         A1   20020731        EP 2000-953960    20000810
           R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
               IE, SI, LT, LV, FI, RO, MK, CY, AL
PRAI   US 1999-148813P    P    19990813
       WO 2000-US21938    W    20000810
OS     MARPAT 134:194691
AB     The invention provides a system for polishing one or more layers
       of a multi-layer substrate that includes a first metal layer and
       a second layer comprising (i) a liq. carrier, (ii) at least one oxidizing
       agent, (iii) at least one polishing additive that increases the
       rate at which the system polishes at least one layer of the
       substrate, wherein the polishing additive is selected
       from the group consisting of pyrophosphates, condensed phosphates,
       phosphonic acids and salts thereof, amines, amino alcs., amides, imines,
       imino acids, nitriles, nitros, thiols, thioesters, thioethers,
       carbothiolic acids, carbothionic acids, thiocarboxylic acids,
       thiosalicylic acids, and mixts. thereof, and (iv) a polishing
       pad and/or an abrasive.  The invention also provides a method of
       polishing a substrate comprising contacting a surface of
       a substrate with the system and polishing at least a
       portion of the substrate therewith.  Moreover, the invention
       provides a method for polishing one or more layers of a
       multi-layer substrate that includes a first metal layer and a
       second layer comprising (a) contacting the first metal layer with the
       system, and (b) polishing the first metal layer with the system
       until at least a portion of the first metal layer is removed from the
       substrate.
ST     polish oxidizing agent additive abrasive
IT     Alcohols, uses
       RL: MOA (Modifier or additive use); USES (Uses)
           (amino; polishing system and method of its use)
IT     Carboxylic acids, uses
       RL: MOA (Modifier or additive use); USES (Uses)
           (imino; polishing system and method of its use)
IT     Abrasives
       Oxidizing agents
          Polishing materials
          (polishing system and method of its use)
IT     Amides, uses
       Amines, uses
       Imines
       Nitriles, uses
       Thioethers
       Thiols (organic), uses
       RL: MOA (Modifier or additive use); USES (Uses)
           (polishing system and method of its use)
IT     Peroxides, uses
       RL: TEM (Technical or engineered material use); USES (Uses)
           (polishing system and method of its use)
IT     Esters, uses
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        RL: MOA (Modifier or additive use); USES (Uses)
            (thio; polishing system and method of its use)
    IT  Carboxylic acids, uses
        RL: MOA (Modifier or additive use); USES (Uses)
            (thiocarboxylic; polishing system and method of its use)
    IT  112-02-7, Cetyltrimethyl ammonium chloride
        RL: MOA (Modifier or additive use); USES (Uses)
            (Varisoft 300; polishing system and method of its use)
    IT  56-18-8, N-(3-Aminopropyl)-1,3-propane diamine   56-87-1, Lysine, uses
        68-11-1, Thioglycolic acid, uses   87-69-4, Tartaric acid, uses   95-45-4,
        Dimethylglyoxime   96-20-8, 2-Amino-1-butanol   107-10-8, Propylamine,
        uses   107-15-3, Ethylenediamine, uses   111-41-1   111-51-3,
        N,N,N',N'-Tetramethyl-1,4-butanediamine   112-57-2, Tetraethylenepentamine
        124-09-4, Hexamethylene-diamine, uses   142-73-4, Iminodiacetic acid
        506-93-4, Guanidine nitrate   616-29-5, 1,3-Diamino-2-propanol   628-87-5,
        Iminodiacetonitrile   929-06-6, 2-(2-Aminoethoxy)ethanol   1122-28-7,
        1H-Imidazole-4,5-dicarbonitrile   2809-21-4, Dequest 2010   2855-13-2,
        Isophorone diamine   3312-60-5, N-Cyclohexyl-1,3-propane diamine
        4246-51-9, 4,7,10-Trioxa-1,13-tridecanediamine   4408-78-0,
        Phosphonoacetic acid   5994-61-6, N-Phosphono-methyliminodiacetic acid
        6419-19-8, Dequest 2000   7209-38-3, 1,4-Bis(3-aminopropyl) piperazine
        7320-34-5, Potassium pyrophosphate   9002-98-6, Lupasol P   15827-60-8,
        Dequest 2060   16854-32-3, Thiomicamine   19847-12-2, Pyrazine
        carbonitrile   36465-90-4, Di-phosphonic acid   116770-99-1, Lupasol
        SC-61B   316356-99-7, Lupasol SKA
        RL: MOA (Modifier or additive use); USES (Uses)
            (polishing system and method of its use)
    IT  1306-38-3, Ceria, uses   1310-53-8, Germania, uses   1314-23-4, Zirconia,
        uses   1344-28-1, Alumina, uses   7631-86-9, Silica, uses   7722-84-1,
        Hydrogen peroxide, uses   13463-67-7, Titania, uses
        RL: TEM (Technical or engineered material use); USES (Uses)
            (polishing system and method of its use)
    IT  7440-25-7, Tantalum, processes   7440-50-8, Copper, processes
        RL: PEP (Physical, engineering or chemical process); PROC (Process)
            (wafers; polishing system and method of its use)
RE.CNT  2       THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Cabot Corp; EP 0896042 A 1999 CAPLUS
(2) Fujimi Inc; EP 0845512 A 1998 CAPLUS


L13   ANSWER 3 OF 3  CAPLUS   COPYRIGHT 2002 ACS
AN    1996:255547  CAPLUS
DN    124:344944
TI    Structure-property relationship PVA-SbQ water soluble photosensitive
      polymer and its application to screening process of color monitor
AU    Park, Lee Soon; Han, Yoon Soo; Kim, Bong chul
CS    Dept. Polymer Sci., Kyungpook Nat'l Univ., Taegu, 702-701, S. Korea
SO    Kongop Hwahak (1996), 7(2), 379-86
      CODEN: KOHWE9; ISSN: 1225-0112
PB    Korean Society of Industrial and Engineering Chemistry
DT    Journal
LA    Korean
CC    37-5 (Plastics Manufacture and Processing)
      Section cross-reference(s): 74
AB    Photosensitive compd., 1-methyl-4-[2-(4-diethylacetylphenyl)ethenyl]
      pyridinium methosulfate (SbQ-A salt), was synthesized from di-Me sulfate,
      terephthalaldehyde mono(diethylacetal) and 4-picoline.  SbQ-A salts were
      reacted with poly(vinyl alcs.) (PVA) in aq. soln. with phosphoric acid as
      catalyst to give photosensitive PVA-SbQ with different SbQ content and
      mol. wt.  Relative photosensitivity of PVA-SbQ was detd. by gray scale
      method.  The relative sensitivity of PVA-SbQ increased with increasing
      amt. of bound SbQ in the case of high mol. wt. (MW = 77,000-79,000 g/mol)
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as **substrate** and decreased with decreasing mol. wt. of PVA with
about const. (1.3 mol.%) amt. of bound SbQ. The most sensitive polymer
was obtained with SbQ group content in PVA-SbQ reached about 2.63 mol.% in
the case of high mol. wt. (77,000-79,000 g/mol) PVA. The sample showed 90
times greater sensitivity than dichromated PVA as red. photosensitive
system. PVA-SbQ photosensitive polymer synthesized was applied to the
photolithog. screening process of phosphor on the panel of cathode ray
tube. Phosphor **slurry** was made with PVA-SbQ, phosphor, a small
amt. of surfactant and other additives using water as medium. The
slurry was coated onto panel, dried by heater, exposed to UV light
and then developed by distd. water. When a small amt. of cationic
surfactant such as cetyltrimethylammonium chloride was used in the
slurry formulation, the sharpness of phosphor pattern was equal to
or better than that of dichromated PVA photosensitive polymer system used
currently.

ST   polyvinyl alc photosensitive screening color monitor;
     methyldiethytlacetylphenylethenyl pyridinium methosulfate photosensitive
     polyvinyl alc
IT   Light-sensitive materials
         (structure-property relation of photosensitive poly(vinyl
         alc.)-methyl[(diethylacetylphenyl)ethenyl] pyridinium methosulfate and
         application to screening process of color monitor)
IT   Surfactants
         (anionic, photosensitive poly(vinyl alc.)-methyl[(diethylacetylphenyl)e
         thenyl] pyridinium methosulfate for screening process of color monitor
         contg.)
IT   Surfactants
         (cationic, photosensitive poly(vinyl alc.)-
         methyl[(diethylacetylphenyl)ethenyl] pyridinium methosulfate for
         screening process of color monitor contg.)
IT   Surfactants
         (nonionic, photosensitive poly(vinyl alc.)-
         methyl[(diethylacetylphenyl)ethenyl] pyridinium methosulfate for
         screening process of color monitor contg.)
IT   Lithography
         (photo-, structure-property relation of photosensitive poly(vinyl
         alc.)-methyl[(diethylacetylphenyl)ethenyl] pyridinium methosulfate and
         application to screening process of color monitor)
IT   77-78-1, Dimethyl sulfate   108-89-4, 4-Picoline   81172-89-6,
     Terephthalaldehyde mono(diethylacetal)
     RL: RCT (Reactant); RACT (Reactant or reagent)
         (in prepn. of photosensitive methyl[(diethylacetylphenyl)ethenyl]
         pyridinium methosulfate)
IT   172669-38-4P
     RL: SPN (Synthetic preparation); PREP (Preparation)
         (prepn. of photosensitive methyl[(diethylacetylphenyl)ethenyl]
         pyridinium methosulfate)
IT   9002-89-5DP, Poly(vinyl alcohol), reaction products with pyridine derivs.
     172669-38-4DP, reaction products with poly(vinyl alc.)
     RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or
     engineered material use); PREP (Preparation); USES (Uses)
         (structure-property relation of photosensitive poly(vinyl
         alc.)-methyl[(diethylacetylphenyl)ethenyl] pyridinium methosulfate and
         application to screening process of color monitor)
IT   75-57-0, Tetramethylammonium chloride **112-02-7,**
     Cetyltrimethylammonium chloride   130-14-3, Sodium 1-naphthalenesulfonate
     150-90-3, Sodium succinate   1338-43-8, Sorbitan monooleate   2386-53-0,
     Sodium dodecylsulfonate   9005-64-5, Polyethylene glycol sorbitan
     monolaurate   9005-65-6, Polyethylene glycol sorbitan monooleate
     25322-68-3D, Polyethylene glycol, derivs.   38746-10-0,
     1-Methylquinolinium methyl sulfate
     RL: TEM (Technical or engineered material use); USES (Uses)

(surfactants; photosensitive poly(vinyl alc.)-
        methyl[(diethylacetylphenyl)ethenyl] pyridinium methosulfate for
        screening process of color monitor contg.)

=> d his

        (FILE 'HOME' ENTERED AT 09:10:18 ON 23 AUG 2002)

        FILE 'REGISTRY' ENTERED AT 09:10:40 ON 23 AUG 2002
                   E CETYLTRIMETHYLAMMONIUM BROMIDE/CN
L1   1 S E3
L2   0 DH IS

        FILE 'CA' ENTERED AT 09:16:30 ON 23 AUG 2002
L3   11385 S L1

        FILE 'REGISTRY' ENTERED AT 09:19:05 ON 23 AUG 2002
                   E CETYLTRIMETHYLAMMONIUM BROMIDE/CN
L4   1 S E3
                   E CETYLTRIMETHYLAMMONIUM CHLORIDE/CN
L5   1 S E3
                   E AMMONIUM BICITRATE/CN
                   E AMMONIUM DICITRATE/CN
                   E AMMONIUM CITRATE/CN
L6   3 S E3
                   E POTASSIUM CITRATE/CN
L7   3 S E3
                   E SODIUM CITRATE/CN
L8   2 S E3
                   E CITRIC ACID/CN
L9   1 S E3

        FILE 'CAPLUS' ENTERED AT 09:47:11 ON 23 AUG 2002
L10   17278 S (SLURRY OR CMP OR (CHEMICAL MECHANICAL POLISH?) OR PLANARIZ?
L11   2250 10 AND L4
L12   6 S L10 AND L4
L13   3 S L10 AND L5

=> s (l6 and l7) and l10
         1283 L6
         1334 L7
L14   0 (L6 AND L7) AND L10

=> s (l6 and l8) and l10
         1283 L6
         7221 L8
L15   0 (L6 AND L8) AND L10

=> s (l7 and l9) and l10
         1334 L7
        37474 L9
L16   2 (L7 AND L9) AND L10

=> d l16, 1-2, all

L16   ANSWER 1 OF 2   CAPLUS   COPYRIGHT 2002 ACS
AN   2000:415424   CAPLUS
DN   133:25377
TI   **Chemical-mechanical polishing slurry**
       for solid-state device fabrication
IN   Lee, Kevin J.

PA   Intel Corp., USA
SO   U.S., 8 pp.
      CODEN: USXXAM
DT   Patent
LA   English
IC   ICM H01L021-461
NCL   106003000
CC   76-3 (Electric Phenomena)
      Section cross-reference(s): 66
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 6077337	A	20000620	US 1998-203432	19981201 *citric acid/L-citrate*
US 6214098	B1	20010410	US 2000-504191	20000215
US 6346144	B1	20020212	US 2000-723092	20001127
PRAI US 1998-203432	A1	19981201		
US 2000-504191	A1	20000215		

AB   One embodiment of the present invention includes a chem.-mech.
      polishing (CMP) slurry. The **slurry**
      is comprised of one or more ferrocenium salts that is or are reduced,
      during use, to ferrocene. The **slurry** also includes an abrasive
      and a concn. of hydronium ions effective to impart a pH of <7.
ST   ferrocenium salt **CMP slurry**
IT   Abrasives
      Buffers
      Contact holes
        Semiconductor device fabrication
      Slurries
        (chem.-mech. **polishing slurry** for solid-state
        device fabrication)
IT   Acids, uses
      RL: TEM (Technical or engineered material use); USES (Uses)
        (chem.-mech. **polishing slurry** for solid-state
        device fabrication)
IT   **Polishing**
        (chem.-mech.; chem.-mech. **polishing slurry** for
        solid-state device fabrication)
IT   Reduction
        (in chem.-mech. **polishing slurry** for solid-state
        device fabrication)
IT   Interconnections (electric)
        (vias; chem.-mech. **polishing slurry** for solid-state
        device fabrication)
IT   Tungsten alloy
      RL: DEV (Device component use); PEP (Physical, engineering or chemical
      process); PROC (Process); USES (Uses)
        (chem.-mech. **polishing slurry** for solid-state
        device fabrication)
IT   7440-33-7, Tungsten, processes
      RL: DEV (Device component use); PEP (Physical, engineering or chemical
      process); PROC (Process); USES (Uses)
        (chem.-mech. **polishing slurry** for solid-state
        device fabrication)
IT   102-54-5P, Ferrocene
      RL: PNU (Preparation, unclassified); TEM (Technical or engineered material
      use); PREP (Preparation); USES (Uses)
        (chem.-mech. **polishing slurry** for solid-state
        device fabrication)
IT   102-54-5D, Ferrocene, salts
      RL: RCT (Reactant); TEM (Technical or engineered material use); RACT
      (Reactant or reagent); USES (Uses)
        (chem.-mech. **polishing slurry** for solid-state

IT 64-19-7, Acetic acid, uses **77-92-9**, uses   7631-86-9, Silica,
    uses **7778-49-6**, Potassium citrate
    RL: TEM (Technical or engineered material use); USES (Uses)
       (chem.-mech. **polishing slurry** for solid-state
       device fabrication)
RE.CNT 18   THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE
(1) Adams; US 5755614 1998
(2) Cadien; US 5340370 1994 CAPLUS
(3) Cadien; US 5516346 1996 CAPLUS
(4) Cadien; US 5604158 1997 CAPLUS
(5) Cadien; US 5611943 1997
(6) Chau; US 5625217 1997 CAPLUS
(7) Chiang; US 5739579 1998
(8) Danielson; US 5407526 1995 CAPLUS
(9) Dub, M; Organometallic Compounds 1966, V1, P226
(10) Feller; US 5700383 1997 CAPLUS
(11) Huang; US 5635423 1997 CAPLUS
(12) Huang; US 5700726 1997 CAPLUS
(13) Mu; US 5612254 1997 CAPLUS
(14) Murarka; US 5637185 1997
(15) Pauson; US 2680756 1954 CAPLUS
(16) Rockett; Journal of Organometallic Chemistry 1981, V211, P215 CAPLUS
(17) Vacha; US 4874222 1989 CAPLUS
(18) Wilkerson, G; The Journal of the American Chemical Society 1952, VLXXIV

L16 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2002 ACS
AN   1998:8186 CAPLUS
DN   128:91857
TI   Abrasive slurries for fine **chemical-mechanical**
     polishing of aluminum or titanium aluminide films
IN   Feller, A. Daniel; Cadien, Kenneth C.
PA   Intel Corp., USA
SO   U.S., 11 pp.
     CODEN: USXXAM
DT   Patent
LA   English
IC   ICM C23F003-00
     ICS C23F001-44
NCL 216088000
CC   56-6 (Nonferrous Metals and Alloys)
     Section cross-reference(s): 76
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5700383	A	19971223	US 1995-577243	19951221

AB   The Al or Ti aluminide films for use in integrated elec.-circuit manuf.
     are **polished** with aq. **slurry** contg.: (a) fine abrasive
     powder, esp. SiO2; (b) an oxidant or water; (c) halogen, esp. a fluoride;
     and (d) a chelating agent, esp. citric acid. The **slurry** for
     polishing of Al film on a substrate typically contains
     SiO2 powder, (KF, and citric acid,) and is used at the pH of 4-9. The Ti
     aluminide film is typically **polished** at pH of 2-4 using the aq.
     slurry contg. SiO2 powder .apprx.2% and citric acid (for
     chelating) at .apprx.1.5 g/L. The 2 slurries are compatible in
     chem.-mech. **polishing** of the 2-layer Al-Ti aluminide films for
     integrated elec. circuits, esp. to remove excess metal for local elec.
     connections.
ST   chem mech **polishing** elec circuit film; aluminum film
     polishing aq **slurry** silica; titanium aluminide film
     polishing silica **slurry**

IT **Polishing**
        (chem.-mech.; slurries for fine chem.-mech. **polishing** of
        aluminum or titanium aluminide films)
IT Integrated circuits
        (films on, **polishing** of; slurries for fine chem.-mech.
        polishing of aluminum or titanium aluminide films)
IT 11107-74-7
    RL: PEP (Physical, engineering or chemical process); PROC (Process)
        (aluminide films, **polishing** of; slurries for fine chem.-mech.
        polishing of aluminum or titanium aluminide films)
IT 7429-90-5, Aluminum, processes
    RL: PEP (Physical, engineering or chemical process); PROC (Process)
        (films, **polishing** of; slurries for fine chem.-mech.
        polishing of aluminum or titanium aluminide films)
IT **77-92-9**, Citric acid, uses **7778-49-6**, Potassium citrate
    7789-23-3, Potassium fluoride   16984-48-8, Fluoride, uses
    RL: MOA (Modifier or additive use); USES (Uses)
        (**polishing slurry** with; slurries for fine
        chem.-mech. **polishing** of aluminum or titanium aluminide
        films)
IT 7631-86-9, Silica, uses
    RL: MOA (Modifier or additive use); USES (Uses)
        (powder, **polishing slurry** with; slurries for fine
        chem.-mech. **polishing** of aluminum or titanium aluminide
        films)

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    (FILE 'HOME' ENTERED AT 09:10:18 ON 23 AUG 2002)

    FILE 'REGISTRY' ENTERED AT 09:10:40 ON 23 AUG 2002
                E CETYLTRIMETHYLAMMONIUM BROMIDE/CN
L1   1 S E3
L2   0 DH IS

    FILE 'CA' ENTERED AT 09:16:30 ON 23 AUG 2002
L3   11385 S L1

    FILE 'REGISTRY' ENTERED AT 09:19:05 ON 23 AUG 2002
                E CETYLTRIMETHYLAMMONIUM BROMIDE/CN
L4   1 S E3
                E CETYLTRIMETHYLAMMONIUM CHLORIDE/CN
L5   1 S E3
                E AMMONIUM BICITRATE/CN
                E AMMONIUM DICITRATE/CN
                E AMMONIUM CITRATE/CN
L6   3 S E3
                E POTASSIUM CITRATE/CN
L7   3 S E3
                E SODIUM CITRATE/CN
L8   2 S E3
                E CITRIC ACID/CN
L9   1 S E3

    FILE 'CAPLUS' ENTERED AT 09:47:11 ON 23 AUG 2002
L10   17278 S (SLURRY OR CMP OR (CHEMICAL MECHANICAL POLISH?) OR PLANARIZ?
L11   2250 10 AND L4
L12   6 S L10 AND L4
L13   3 S L10 AND L5
L14   0 S (L6 AND L7) AND L10
L15   0 S (L6 AND L8) AND L10

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L16            2 S (L7 AND L9) AND L10

=> s (l8 and l9) and l10
         7221 L8
        37474 L9
L17           5 (L8 AND L9) AND L10

=> d his

      (FILE 'HOME' ENTERED AT 09:10:18 ON 23 AUG 2002)

      FILE 'REGISTRY' ENTERED AT 09:10:40 ON 23 AUG 2002
               E CETYLTRIMETHYLAMMONIUM BROMIDE/CN
L1            1 S E3
L2            0 DH IS

      FILE 'CA' ENTERED AT 09:16:30 ON 23 AUG 2002
L3        11385 S L1

      FILE 'REGISTRY' ENTERED AT 09:19:05 ON 23 AUG 2002
               E CETYLTRIMETHYLAMMONIUM BROMIDE/CN
L4            1 S E3
               E CETYLTRIMETHYLAMMONIUM CHLORIDE/CN
L5            1 S E3
               E AMMONIUM BICITRATE/CN
               E AMMONIUM DICITRATE/CN
               E AMMONIUM CITRATE/CN
L6            3 S E3
               E POTASSIUM CITRATE/CN
L7            3 S E3
               E SODIUM CITRATE/CN
L8            2 S E3
               E CITRIC ACID/CN
L9            1 S E3


      FILE 'CAPLUS' ENTERED AT 09:47:11 ON 23 AUG 2002
L10       17278 S (SLURRY OR CMP OR (CHEMICAL MECHANICAL POLISH?) OR PLANARIZ?
L11        2250 10 AND L4
L12           6 S L10 AND L4
L13           3 S L10 AND L5
L14           0 S (L6 AND L7) AND L10
L15           0 S (L6 AND L8) AND L10
L16           2 S (L7 AND L9) AND L10
L17           5 S (L8 AND L9) AND L10

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L17   ANSWER 1 OF 5  CAPLUS  COPYRIGHT 2002 ACS
AN    2002:58815  CAPLUS
DN    136:92385
TI    Technology and application of pulse electrodeposition
IN    Zhang, Shaohe
PA    Peop. Rep. China
SO    Faming Zhuanli Shenqing Gongkai Shuomingshu, 6 pp.
      CODEN: CNXXEV
DT    Patent
LA    Chinese
IC    ICM  C25D005-18
      ICS  C25D015-00
CC    72-8 (Electrochemistry)
      Section cross-reference(s): 49
FAN.CNT 1
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      PATENT NO.        KIND  DATE          APPLICATION NO.  DATE
      ---------------   ----  --------      ----------------  --------
PI    CN 1300883        A     20010627      CN 2000-126703    20001122
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AB   The technol. comprises pretreating diamond, prepg. plating bath,
      pretreating **substrate,** electroplating, and post treatment. The
      diamond pretreatment comprises boiling diamond (JR4 type 50/60-70/80 mesh)
      in 5% NaOH soln. for 3-5 min, washing, dipping in 10% HCl for .apprx.5
      min, washing, mixing with H2O and Na dodecyl sulfate, boiling, washing,
      and dipping in Ni-W plating bath for >12 h. The plating bath contains
      Na2WO4 50-80, Na citrate 50- 180, NiSO4 10-70, NH4Cl 10-40, and citric
      acid 15-30 g L-1. The pH value of the plating bath is 4-9, and its temp.
      is 30 .PHI.+ 1.PHI.'. The **substrate** pretreatment process
      comprises **polishing,** removing rust and oil in a soln. contg.
      NaOH 10-15, Na2CO3 20-25, and Na3PO4 30-40 g L-1 at 3.0-5.0 A dm- 2, and
      activating in a soln. contg. 250-300 g L-1 KOH at 50-60.PHI.'. The
      electrodeposition process comprises impact electrodeposition at pulse
      frequency 1000 Hz, duty ratio 25%, and c.d. 4.0 A dm-2 for 10 min,
      depositing at pulse frequency 1000 Hz, duty ratio 25%, and c.d. 1.0-2.5 A
      dm-2 for 30 min, scattering pretreated diamond on the **substrate,**
      electroplating, removing unwanted diamond, and repeating the scattering,
      plating, and unwanted diamond-removing process for several times. The
      post treatment process comprises heating at 200-250.PHI.' for 2-3 h. The
      technol. was used for manuf. of Ni-W alloy diamond drilling bits or tools.

ST   pulse electrodeposition diamond nickel tungsten drill
IT   Drills
          (pretreatment and electrodeposition and post-treatment method for
          nickel-tungsten alloy used as drill bits)
IT   Electrodeposition
          (pulse; pretreatment and electrodeposition and post-treatment method
          for nickel-tungsten alloy used as drill bits)
IT   37264-44-1
      RL: CPS (Chemical process); PEP (Physical, engineering or chemical
      process); TEM (Technical or engineered material use); PROC (Process); USES
      (Uses)
          (pretreatment and electrodeposition and post-treatment method for
          nickel-tungsten alloy used as drill bits)
IT   **68-04-2,** Sodium citrate **77-92-9,** Citric acid, uses
      151-21-3, Sodium dodecyl sulfate, uses   497-19-8, Sodium carbonate, uses
      1310-58-3, Potassium hydroxide, uses   1310-73-2, Sodium hydroxide, uses
      7601-54-9, TriSodium phosphate   7647-01-0, Hydrochloric acid, uses
      12125-02-9, Ammonium chloride, uses
      RL: NUU (Other use, unclassified); USES (Uses)
          (pretreatment and electrodeposition and post-treatment method for
          nickel-tungsten alloy used as drill bits)
IT   7786-81-4, Nickel sulfate   13472-45-2, Sodium tungstate
      RL: RCT (Reactant); RACT (Reactant or reagent)
          (pretreatment and electrodeposition and post-treatment method for
          nickel-tungsten alloy used as drill bits)
IT   7782-40-3, Diamond, uses
      RL: TEM (Technical or engineered material use); USES (Uses)
          (pretreatment and electrodeposition and post-treatment method for
          nickel-tungsten alloy used as drill bits)

L17   ANSWER 2 OF 5 CAPLUS COPYRIGHT 2002 ACS
AN   2001:64307 CAPLUS
DN   134:124734
TI   Compositions and processes for spin etch **planarization** in
      semiconductor device fabrication
IN   Levert, Joseph; Towery, Daniel L.
PA   Alliedsignal Inc., USA
SO   PCT Int. Appl., 38 pp.
      CODEN: PIXXD2

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      PATENT NO.        KIND  DATE           APPLICATION NO.  DATE
      ---------------   ----  --------       ----------------  --------
PI    WO 2001006555     A1    20010125        WO 2000-US18723  20000710
         W:   AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE,
              DK, EE, ES, FI, GB, GE, GH, GM, HU, ID, IL, IN, IS, JP, KE, KG,
              KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX,
              NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT,
              UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
         RW:  GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
              DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,
              CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
      US 2001054706     A1    20011227         US 1999-356487   19990719
      EP 1198827        A1    20020424         EP 2000-947151   20000710
         R:   AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
              IE, SI, LT, LV, FI, RO, MK, CY, AL
PRAI  US 1999-356487    A     19990719
      WO 2000-US18723   W     20000710
```
AB   The present invention describes methods and chem. compns. for the spin
      etch **planarization** of surfaces, particularly Cu and Ta. An
      etching soln. is brought into contact with the upper face of a spinning
      wafer through a nozzle, preferably an oscillating nozzle. The etching
      soln. has a compn. that oxidizes the spinning surface, forming a
      passivation layer thereon. The etching soln. further contains reactants
      for removing the passivation layer exposing the underlying surface to
      further reaction, leading to the desired etching of the surface. The
      characteristics of the etching soln. are adjusted such that reactant
      diffusion to lower regions of the surface limits the rate of etching.
      Faster reaction occurs at higher regions of the surface lying in more
      rapidly moving etching soln. resulting in the desired
      planarization.
ST   spin etching **polishing semiconductor** device
      fabrication; chem mech **polishing** device fabrication; oxidn
      etching device fabrication
IT   Alcohols, processes
      RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical
      process); PROC (Process); USES (Uses)
          (aliph.; in compns. and processes for spin etch **planarization**
          in **semiconductor** device fabrication)
IT   Surfactants
          (anionic; in compns. and processes for spin etch **planarization**
          in **semiconductor** device fabrication)
IT   Surfactants
          (cationic; in compns. and processes for spin etch **planarization**
          in **semiconductor** device fabrication)
IT   **Polishing**
          (chem.-mech.; compns. and processes for spin etch **planarization**
          in **semiconductor** device fabrication)
IT   Etching
      Integrated circuits
        Semiconductor device fabrication
          (compns. and processes for spin etch **planarization** in
          semiconductor device fabrication)
IT   Hydrocarbons, processes
      RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical
      process); PROC (Process); USES (Uses)
          (fluoro; in compns. and processes for spin etch **planarization**

in **semiconductor** device fabrication)

IT   Nozzles
         (for spin etch **planarization** in **semiconductor**
         device fabrication)
IT   Oxidizing agents
      Wetting agents
         (in compns. and processes for spin etch **planarization** in
         semiconductor device fabrication)
IT   Amines, processes
      Carboxylic acids, processes
      Gelatins, processes
      Phenols, processes
      RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical
      process); PROC (Process); USES (Uses)
         (in compns. and processes for spin etch **planarization** in
         semiconductor device fabrication)
IT   Passivation
         (in spin etch **planarization** in **semiconductor** device
         fabrication)
IT   Surfactants
         (nonionic; in compns. and processes for spin etch **planarization**
         in **semiconductor** device fabrication)
IT   Surfactants
         (org.; in compns. and processes for spin etch **planarization**
         in **semiconductor** device fabrication)
IT   Etching
         (photochem.; for **planarization** in **semiconductor**
         device fabrication)
IT   Oxidation
         (surface; in spin etch **planarization** in **semiconductor**
         device fabrication)
IT   7440-25-7, Tantalum, processes   7440-50-8, Copper, processes
      RL: DEV (Device component use); PEP (Physical, engineering or chemical
      process); PROC (Process); USES (Uses)
         (compns. and processes for spin etch **planarization** of)
IT   57-55-6, Propyleneglycol, processes   60-00-4, EDTA, processes   62-76-0,
      Sodium oxalate   64-17-5, Ethanol, processes   64-19-7, Acetic acid,
      processes   67-56-1, Methanol, processes **68-04-2**, Trisodium
      citrate   71-23-8, n-Propanol, processes   75-89-8 **77-92-9**,
      Citric acid, processes   87-69-4, Tartaric acid, processes   88-27-7,
      2,6-Di-tert-butyl-4-[(dimethylamino)methyl]phenol   89-65-6, Erythorbic
      acid   95-14-7, 1H-Benzotriazole   102-71-6, Triethanolamine, processes
      104-75-6, 2-Ethylhexylamine   107-21-1, 1,2-Ethanediol, processes
      128-37-0, Agidol, processes   139-33-3   144-62-7, Oxalic acid, processes
      288-36-8, 1,2,3-Triazole   288-88-0, 1H-1,2,4-Triazole   288-94-8,
      1H-Tetrazole   1303-96-4, Borax   1310-73-2, Sodium hydroxide, processes
      1333-39-7, Phenolsulfonic acid   1336-21-6, Ammonium hydroxide
      6915-15-7, Malic acid   7439-98-7D, Molybdenum, salts, processes
      7440-25-7D, Tantalum, salts, processes   7440-50-8D, Copper, salts,
      processes   7447-40-7, Potassium chloride, processes   7631-95-0, Sodium
      molybdate   7631-99-4, Sodium nitrate, processes   7647-01-0, Hydrogen
      chloride, processes   7664-38-2, Phosphoric acid, processes   7664-39-3,
      Hydrogen fluoride, processes   7664-93-9, Sulfuric acid, processes
      7697-37-2, Nitric acid, processes   7722-84-1, Hydrogen peroxide,
      processes   7733-02-0, Zinc sulfate   7758-89-6, Cuprous chloride
      7758-98-7, Cupric sulfate, processes   7775-09-9, Sodium chlorate (NaClO3)
      8061-51-6, Sodium lignosulfonate   9002-89-5, Polyvinyl alcohol
      9002-92-0, Poly(oxyethylene)lauryl ether   9004-32-4,
      Carboxymethylcellulose   12125-01-8, Ammonium fluoride   14066-19-4,
      Monohydrogen phosphate, processes   14265-44-2, Phosphate, processes
      16887-00-6, Chloride, processes   17084-08-1, Hexafluorosilicate
      26053-72-5, Diphenylsulfamic acid   27846-09-9, Iron monochloride

89800-24-8, Laprol 602
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical
process); PROC (Process); USES (Uses)
(in compns. and processes for spin etch **planarization** in
semiconductor device fabrication)

RE.CNT   10   THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Anon; PATENT ABSTRACTS OF JAPAN 1997, V1997(01)
(2) Contolini; US 5486234 A 1996 CAPLUS
(3) Gelchinski; US 4497692 A 1985 CAPLUS
(4) Ibm; EP 0699782 A 1996 CAPLUS
(5) Kern; RCA REVIEW 1978, V39(2), P278 CAPLUS
(6) Samsung Electronics; DE 19928570 A 1999 CAPLUS
(7) Sasaki; US 5770095 A 1998 CAPLUS
(8) Sez Semiconductor-Equipment; EP 0905754 A 1999 CAPLUS
(9) Ube Ind Ltd; JP 08236615 A 1996 CAPLUS
(10) Unvala; JOURNAL OF THE ELECTROCHEMICAL SOCIETY 1972, V119(3), P318 CAPLUS

L17   ANSWER 3 OF 5   CAPLUS   COPYRIGHT 2002 ACS
AN   1999:420654   CAPLUS
DN   131:105857
TI   Manufacture of carpet with cement-based backing
IN   Endo, Katsuaki; Fukushima, Kenichi
PA   Mitsubishi Kagaku BASF K. K., Japan
SO   Jpn. Kokai Tokkyo Koho, 7 pp.
      CODEN: JKXXAF
DT   Patent
LA   Japanese
IC   ICM A47G027-02
      ICS B32B013-14
CC   58-6 (Cement, Concrete, and Related Building Materials)
      Section cross-reference(s): 40
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 11178701	A2	19990706	JP 1997-367264	19971224

AB   The method comprises molding a **slurry** of a cement compn.
      comprising a hydraulic inorg. powder contg. 4-25 wt.% and an aq. polymer
      dispersion to sheets, laminating a carpet **substrate** material to,
      and transferring the laminates sheets the sheets on heaters to heat and
      harden to obtain carpet. Optionally, a setting retardant selected from
      gluconic acid, gluconates, citric acid, and/or citrates is added to the
      slurry.
ST   carpet cement based backing
IT   Cement (construction material)
         (aluminous; manuf. of carpets with cement-based backings from mixts.
         contg.)
IT   Polyester fibers, uses
      RL: TEM (Technical or engineered material use); USES (Uses)
         (fabrics, carpet base material; manuf. of carpets with cement-based
         backings)
IT   Carpets
         (manuf. of carpets with cement-based backings)
IT   Cement (construction material)
         (portland; manuf. of carpets with cement-based backings from mixts.
         contg.)
IT   24937-78-8, Sumikaflex S 401
      RL: TEM (Technical or engineered material use); USES (Uses)
         (Sumikaflex S 401; manuf. of carpets with cement-based backings from
         mixts. contg.)
IT   **77-92-9**, uses   471-34-1, Calcium carbonate, uses   526-95-4,
      Gluconic acid   527-07-1, Sodium gluconate **994-36-5,** Sodium

citrate   36290-04-7, Mighty 150   83382-48-3, Nopco 8034   90803-17-1,
Acronal S400
    RL: TEM (Technical or engineered material use); USES (Uses)
        (manuf. of carpets with cement-based backings from mixts. contg.)

L17 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2002 ACS
AN   1991:667763 CAPLUS
DN   115:267763
TI   Selective electroless metal deposition for via hole filling and conductor
     pattern formation in VLSI multilevel interconnection structures
AU   Dubin, V. M.
CS   Minsk Radioeng. Inst., Minsk, USSR
SO   Proc. - Electrochem. Soc. (1991), 91-11(ULSI Sci. Technol./1991), 739-48
     CODEN: PESODO; ISSN: 0161-6374
DT   Journal
LA   English
CC   76-2 (Electric Phenomena)
AB   The selective electroless Ni-Cu deposition process was investigated for
     via hole filling and conductor pattern formation in VLSI multilevel
     interconnection structures. Cu was added to Al-Si in order to deposit
     Ni-Cu on Al-Si-Cu lines without any activation step and obtain a good
     selectivity. A 0.2 mm Ni-Cu overcoat on a 0.5 .mu.m Al-Si-Cu lines
     increases corrosion resistance, suppress hillock formation and decreases
     resistance of interconnections. The Ni-Cu was deposited into via holes of
     Ni-Cu overcoats of AL-Si-Cu lines without any activation. Via holes in a
     1.5 .mu.m polyimide layer were filling by Ni-Cu to the top surface to give
     completely **planarization** of interconnections. Good contact
     resistance was obtained without any annealing by measuring the via chain
     resistance. For comparison selective electroless Ni deposition on Al-Si
     with Pd activation was investigated.
ST   copper nickel via hole filling; conductor copper nickel patterning
IT   Electric conductors
        (electroless deposition of, for integrated circuits)
IT   Electric resistance
        (of copper-nickel electrolessly deposited layers)
IT   Electric resistance
        (contact, of copper-nickel electrolessly deposited layers)
IT   11101-28-3
     RL: PEP (Physical, engineering or chemical process); PROC (Process)
        (electroless deposition of, for conductor patterning and via hole
        filling)
IT   56-40-6, Glycine, uses and miscellaneous   56-89-3, Cystine, uses and
     miscellaneous **77-92-9**, Citric acid, uses and miscellaneous
     631-61-8, Ammonium acetate **994-36-5**, Sodium citrate   1336-21-6,
     Ammonium hydroxide ((NH4)(OH))   7681-53-0, Sodium hypophosphite
     7718-54-9, Nickel dichloride, uses and miscellaneous   7758-98-7, Sulfuric
     acid copper(2+) salt (1:1), uses and miscellaneous   7786-81-4, Nickel
     sulfate   12125-02-9, Ammonium chloride, uses and miscellaneous
     RL: USES (Uses)
        (in electroless deposition of nickel for filling of via holes)
IT   64-19-7, Acetic acid, uses and miscellaneous   7647-01-0, Hydrogen
     chloride, uses and miscellaneous   7647-10-1, Palladium dichloride
     7664-39-3, Hydrofluoric acid, uses and miscellaneous
     RL: USES (Uses)
        (in electroless filling of holes and interconnects on silica layers)
IT   121088-52-6, AD9103
     RL: DEV (Device component use); TEM (Technical or engineered material
     use); USES (Uses)
        (in patterning of silica layers for **semiconductor** devices)
IT   7631-86-9, Silica, uses and miscellaneous
     RL: DEV (Device component use); TEM (Technical or engineered material
     use); USES (Uses)

IT   7440-21-3, Silicon, uses and miscellaneous
     RL: USES (Uses)
       (via hole filling and conductor pattern formation on thermally
       oxidized)
IT   7440-02-0, Nickel, uses and miscellaneous   11145-30-5   72893-14-2
     RL: DEV (Device component use); TEM (Technical or engineered material
     use); USES (Uses)
       (via hole filling and conductor pattern formation with, for
       semiconductor devices)

L17 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2002 ACS
AN   1987:432086 CAPLUS
DN   107:32086
TI   Electroless deposition of magnetic recording media and products produced
     thereby
IN   Malik, Michael; Greene, Joseph L.
PA   Richardson Chemical Co., USA
SO   U.S., 9 pp.
     CODEN: USXXAM
DT   Patent
LA   English
IC   ICM H01F010-02
NCL 427129000
CC   77-8 (Magnetic Phenomena)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 4659605	A	19870421	US 1984-610684	19840516
EP 237663	A1	19870923	EP 1986-301984	19860318
EP 237663	B1	19910925		
R: BE, DE, FR, GB, LU, NL				
CA 1291676	A1	19911105	CA 1986-504457	19860319
JP 62246145	A2	19871027	JP 1986-89863	19860418

PRAI US 1984-610684   19840516

AB   In a process for producing a high-d. magnetic storage device (e.g., a
     rigid memory disk) having improved magnetic recording properties,
     including high coercivity, high remanence, and improved hysteresis loop
     squareness, the device is prepd. by initially cleaning the surface of a
     substrate, such as an Al disk, zincating that cleaned surface when
     applicable, and electrolessly depositing a nonmagnetic, Ni-P layer which
     is substantially free of pits and other surface imperfections. The
     nonmagnetic Ni-P layer is then **polished** and a magnetic Co-P
     layer is electrolessly deposited. The Co-P deposition is performed in a
     highly stable, NH3-free bath contg. a source of Co ions, a source of
     hypophosphite ions, a source of citrate ions, and a low-mol.-wt.,
     bath-sol. amino acid. Preferably, a buffering agent such as a borate is
     employed.
ST   cobalt phosphorus electroless deposition magnetic recording; nickel
     phosphorus electroless deposition recording; storage magnetic device
     electroless deposition; recording magnetic disk electroless deposition
IT   Amino acids, uses and miscellaneous
     Borates
     Carboxylic acids, uses and miscellaneous
     RL: USES (Uses)
       (in electroless deposition of nonmagnetic nickel-phosphorus and
       magnetic cobalt-phosphorus layers for magnetic storage devices)
IT   Alkali metals, compounds
     RL: USES (Uses)
       (tetraborates and metaborates and pentaborates, in electroless
       deposition of nonmagnetic nickel-phosphorus and magnetic
       cobalt-phosphorus layers for magnetic storage devices)

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IT   Memory devices
         (magnetic, electroless deposition of nonmagnetic nickel-phosphorus and
         magnetic cobalt-phosphorus layers for)
IT   Recording apparatus
         (magnetic, manuf. of)
IT   Memory devices
         (magnetic, disks, electroless deposition of nonmagnetic
         nickel-phosphorus and magnetic cobalt-phosphorus layers for)
IT   7440-66-6, Zinc, uses and miscellaneous
     RL: PEP (Physical, engineering or chemical process); PROC (Process)
         (deposition of, in magnetic storage device manuf.)
IT   11109-71-0
     RL: PRP (Properties)
         (electroless deposition of magnetic layers of, for magnetic storage
         devices)
IT   11149-64-7   12641-64-4
     RL: PRP (Properties)
         (electroless deposition of nonmagnetic layers of, for magnetic storage
         devices)
IT   7429-90-5, Aluminum, uses and miscellaneous   25038-59-9, uses and
     miscellaneous
     RL: USES (Uses)
         (electroless deposition of nonmagnetic nickel-phosphorus and magnetic
         cobalt-phosphorus layers on, for magnetic storage devices)
IT   12720-80-8
     RL: PRP (Properties)
         (electroless deposition of nonmagnetic nickel-phosphorus and magnetic
         cobalt-phosphorus layers on, for magnetic storage devices)
IT   56-40-6, Glycine, uses and miscellaneous   56-41-7, .alpha.-Alanine, uses
     and miscellaneous   56-45-1, Serine, uses and miscellaneous
     68-04-2, Sodium citrate   72-18-4, Valine, uses and miscellaneous
     72-19-5, Threonine, uses and miscellaneous 77-92-9D, Citric
     acid, salts   142-47-2, Monosodium glutamate   1303-96-4, Sodium
     tetraborate   10043-35-3, Boric acid, uses and miscellaneous
     RL: USES (Uses)
         (in electroless deposition of nonmagnetic nickel-phosphorus and
         magnetic cobalt-phosphorus layers for magnetic storage devices)
IT   7439-98-7D, Molybdenum, gluco-heptonic acid ester   7440-33-7D, Tungsten,
     gluco-heptonic acid ester   7440-42-8D, Boron, gluco-heptonic acid ester
     23351-51-1D, Glucoheptonic acid, esters
     RL: PRP (Properties)
         (in electroless deposition of nonmagnetic nickel-phosphorus and
         magnetic cobalt-phosphorus layers for magnetic storage devices)


=> d his

     (FILE 'HOME' ENTERED AT 09:10:18 ON 23 AUG 2002)

     FILE 'REGISTRY' ENTERED AT 09:10:40 ON 23 AUG 2002
               E CETYLTRIMETHYLAMMONIUM BROMIDE/CN
L1          1 S E3
L2          0 DH IS

     FILE 'CA' ENTERED AT 09:16:30 ON 23 AUG 2002
L3      11385 S L1

     FILE 'REGISTRY' ENTERED AT 09:19:05 ON 23 AUG 2002
               E CETYLTRIMETHYLAMMONIUM BROMIDE/CN
L4          1 S E3
               E CETYLTRIMETHYLAMMONIUM CHLORIDE/CN
L5          1 S E3
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                    E AMMONIUM BICITRATE/CN
                    E AMMONIUM DICITRATE/CN
                    E AMMONIUM CITRATE/CN
L6              3 S E3
                    E POTASSIUM CITRATE/CN
L7              3 S E3
                    E SODIUM CITRATE/CN
L8              2 S E3
                    E CITRIC ACID/CN
L9              1 S E3


        FILE 'CAPLUS' ENTERED AT 09:47:11 ON 23 AUG 2002
L10         17278 S (SLURRY OR CMP OR (CHEMICAL MECHANICAL POLISH?) OR PLANARIZ?
L11          2250 10 AND L4
L12             6 S L10 AND L4
L13             3 S L10 AND L5
L14             0 S (L6 AND L7) AND L10
L15             0 S (L6 AND L8) AND L10
L16             2 S (L7 AND L9) AND L10
L17             5 S (L8 AND L9) AND L10

=> s (buffer or (116 and 17))and 110
        188152 BUFFER
            64 LL6
          1334 L7
L18           246 (BUFFER OR (LL6 AND L7))AND L10

=> s (buffer or (16 and 17)) and 110
        188152 BUFFER
          1283 L6
          1334 L7
L19           246 (BUFFER OR (L6 AND L7)) AND L10
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